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EXAMINATION OF ANNUAL REPORTS:
SOMALILAND UNDER ITALIAN ADMINISTRATION

Note by the Secretary-General

The Secretary-General has the honour to communicate herewith to the members of the Trusteeship Council the report¹ of the Technical Assistance Mission to the Trust Territory of Somaliland under Italian administration which, in agreement with the Italian Government, is now released for general use.

¹ Only a limited number of copies of the report is available at present. It will be released in the future as document ST/TAA/K/SOMALILAND/1.

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The Trust Territory of Somaliland
Under Italian Administration
United Nations
Technical Assistance Programme

The Trust Territory of Somaliland
Under Italian Administration

NEW YORK, 1952
The Trust Territory of Somaliland Under Italian Administration

Report prepared jointly for the Government of Italy

by an expert appointed by the United Nations Technical Assistance Administration and by experts appointed respectively by the Food and Agriculture Organization of the United Nations, the United Nations Educational, Scientific and Cultural Organization, and the World Health Organization.
## TABLE OF CONTENTS

**PREFACE**

**FORWARD**

**PART ONE: LAND, POPULATION AND ECONOMY**

**CHAPTER I. SUMMARIES AND RECOMMENDATIONS**

**INTRODUCTION**

A. **AGRICULTURE: ESSENTIAL FEATURES AND RECOMMENDATIONS.**

B. **ANIMAL HUSBANDRY: ESSENTIAL FEATURES AND RECOMMENDATIONS.**

C. **INDUSTRY: ESSENTIAL FEATURES AND RECOMMENDATIONS.**

D. **BALANCE OF PAYMENTS AND EXTERNAL TRADE: ESSENTIAL FEATURES AND RECOMMENDATIONS.**

E. **PUBLIC FINANCE: ESSENTIAL FEATURES AND RECOMMENDATIONS.**

**CHAPTER II. RESOURCES AND THE ECONOMY OF SOMALILAND.**

A. **PHYSICAL AND HUMAN RESOURCES**

   1. Physical characteristics
   2. Water resources
   3. Climate
   4. Population
   5. Historical note

B. **AGRICULTURE**

   1. General
   2. Crops

C. **ANIMAL HUSBANDRY**

D. **INDUSTRY**

   1. Private investment in industry
   2. Specific industries
   3. Fishing industry
   4. Salt industry
   5. Minerals
   6. The labour situation
PART TWO: TECHNICAL REPORTS OF THE MISSION'S EXPERTS

CHAPTER III. LIVESTOCK AND NATURAL PASTURE (RANGE)

INTRODUCTION

A. LIVESTOCK AND LIVESTOCK PRODUCTION METHODS

1. Breeds and Breeding of Livestock
   a. Cattle
   b. Goats
   c. Sheep
   d. Camels
   e. Swine
   f. Poultry

2. Research in Livestock Breeds

3. Methods of Handling Livestock

B. FORAGE AND FEED RESOURCES OF SOMALILAND

1. The Natural Pastures (Range)
   a. General Vegetation Types
   b. Natural Pasture Condition
   c. Management and Grazing Use
   d. Climate as it Affects Management
   e. Influence of Disease Danger on Management
   f. Improvements in Natural Pasture
   g. Administration of Grazing
   h. Research on Natural Pastures
2. Feed Resources
   a. Utilization of Crop Aftermath
   b. Utilization of Agricultural By-Products
   c. Preparation of Hay and Silage

C. WATER RESOURCES FOR LIVESTOCK USE
   1. Improvement of Water Supplies

D. LIVESTOCK DISEASE
   1. Disease Control Improvements

E. MARKETING OF LIVESTOCK AND LIVESTOCK PRODUCTS
   1. Improvements of Marketing Facilities

F. EDUCATION, TRAINING AND EXTENSION
   1. Training
   2. Extension

G. LIVESTOCK AND PASTURE RESEARCH

H. SUGGESTED PROGRAMME OF IMPROVEMENTS FOR THE LIVESTOCK INDUSTRY

CHAPTER IV. AGRICULTURE (OTHER THAN LIVESTOCK AND NATURAL PASTURE)

INTRODUCTION

   1. The Frontiers
   2. The Midjurtein
   3. The Mudugh
   4. The Region Between the Rivers
   5. The Coastal Belt
   6. The River Valleys
   7. The Trans-Juba

A. GRAIN CROPS
   1. Production
   2. Possible Methods of Increasing Autochthonous Food Production

B. COTTON GROWING AND THE COTTON INDUSTRY
   1. Historical
   2. Cotton-Growing Areas
   3. Varieties and Methods of Cultivation
   4. Pests and Diseases
   5. Establishment of a Close Season
   6. Labour for Cotton Production
   7. Marketing and Ginning
   8. Organization of the Cotton-Growing Industry
CHAPTER V. EDUCATION

SECTION I. GENERAL

INTRODUCTION
A. REVIEW OF EDUCATIONAL SYSTEM

1. Teachers and Teacher Training 240
2. School Buildings 241
3. Other Aspects of Educational Work 243
4. Text Books 244
5. Teachers' Books 245
6. Libraries 245
7. Radio, Films and Newspapers 245
8. The Language of Instruction 246
10. Subject of Instruction 249
11. School Terms 250
12. The Italian Element 251

B. TECHNICAL TRAINING 252

1. Scuola Artigianato Typo Somalo 252
2. Scuola di Specialisti Aeronautistica 252
3. Other Training 253
4. Higher Technical Training 253

C. FUNDAMENTAL EDUCATION 254

SECTION II. RECOMMENDATIONS

A. ADMINISTRATION 255
B. PRIMARY EDUCATION 255
C. SECONDARY EDUCATION 256
D. VOCATIONAL SCHOOLS 260
1. Schools for Artisans 261
2. School of Aeronautics 262
E. TEACHER TRAINING 263
F. ADULT EDUCATION 264
G. RELIGIOUS INSTRUCTION 266
H. HEALTH, NATURE STUDY AND HYGIENE 266
I. THE EDUCATION OF GIRLS AND WOMEN 267
J. LANGUAGES 267
K. BURSARIES AND FELLOWSHIPS 268
L. NOMADISM AND EDUCATION 268
M. LIBRARIES AND TRAVELLING LIBRARIES 269
CHAPTER VI. PUBLIC HEALTH

A. GENERAL ASPECTS

1. Principal Problems
   a. Dwellings
   b. Water Supply
   c. Nutrition
   d. Mortality

B. HEALTH ADMINISTRATION

1. Central Health Administration
2. Provincial Level
3. Local Level
4. Local Health Units
5. Public Health Budget
6. Personnel
   a. Professional Staff
   b. Auxiliary Staff
   c. Personnel Allocation
7. Salaries

C. VOCATIONAL INSTRUCTION

1. School for Hospital Attendants
2. Medical Assistants' School
D. HYGIENE AND PROPHYLAXIS LABORATORY

E. SERA AND VACCINE PRODUCTION

F. MATERNITY AND CHILD WELFARE

G. MENTAL HEALTH

H. HOSPITALS
    1. Principal Hospitals
    2. Secondary Hospitals

I. RESEARCH AND INVESTIGATION

J. SOCIAL INSURANCE SYSTEM

K. PRINCIPAL DISEASES
    1. Malaria
        a. Anopheles
        b. Plasmodium
        c. Malaria Incidence
        d. Bibliography of Malaria
    2. Framboesia
    3. Syphilis
    4. Tuberculosis
    5. Ankylostomiasis
    6. Schistosomiasis
    7. Relapsing Fever
    8. Tropical Ulcers

L. CONCLUSIONS AND RECOMMENDATIONS
    1. Programme for the Expansion of Health Services
    2. Objectives
    3. Recommendations
PREFACE

The terms of reference of the Technical Assistance Mission to the Trust Territory of Somaliland under Italian Administration were agreed on 27 July 1951 between the United Nations, the Food and Agriculture Organization of the United Nations, the United Nations Educational, Scientific and Cultural Organization, and the World Health Organization and the Government of Italy. The Agreement specified that the services of six experts would be provided for three months to conduct a general survey of the economic needs of the Territory, advise the Administering Authority on a programme to improve economic and social conditions, propose measures designed to promote and facilitate economic and social development of the Territory, and recommend what further technical assistance should be requested of the Organizations to put such a programme into effect, including assistance in estimating the financial requirements essential for the execution of the programme.

The Mission was composed of: Mr. William H. Dean (United Nations), Chief of mission and economist; Mr. Gabriel Feral (United Nations), expert in nomadic questions and social development; Mr. William H. Bond (Food and Agriculture Organization of the United Nations), expert in agricultural development; Mr. Joseph F. Pechanec (FAO), expert in live-stock and natural pastures; Mr. Anthony Fielding-Clarke (United Nations Educational, Scientific and Cultural Organization), expert in educational matters; Dr. Vincenzo Coffari (World Health Organization), expert in public health matters. Miss Dinah Johnston served as administrative assistant and secretary to the Mission.

The members assembled in Rome between 15 and 23 August 1951 at the headquarters of the Food and Agriculture Organization of the United Nations. While in Rome the Mission was received by His Excellency the Hon. Paola Emilio Taviani, Under-Secretary of State for Foreign Affairs. During this period, as again on his return from Somaliland, the Government arranged for Mr. Bond to visit the Institute of Colonial Agriculture in Florence.

The Mission reached Mogadishu on 27 August, with the exception of Mr. Bond who arrived on 1 September. The Mission remained in Somaliland until

1/ Supplemental Agreement No. 1 to the Basic Agreement between the United Nations, the Food and Agriculture Organization, the International Civil Aviation Organization, the International Labour Organization, the United Nations Educational, Scientific and Cultural Organization and the World Health Organization.

2/ Mr. Bond travelled by way of the Aden Protectorate and British Somaliland for consultation on agricultural development projects. There, and on other visits to neighbouring Territories to which subsequent reference is made, were arranged through appropriate official channels, and programmes of interviews and visits were an effective complement to the work of the Mission.
On arrival in the Trust Territory the Mission was received by His Excellency P. Gorini, Secretary-General, and later by His Excellency Ambassador G. Fornari, the Administrator of Italian Trusteeship Administration of Somaliland ("Administrazione Fiduciaria Italiana della Somalia" hereafter referred to as the AFIS).

Consulations were also held with Dr. P. Spinelli, the Chief of Cabinet. On 28 August the Mission met the executive heads of the Divisions of the AFIS.

After establishing headquarters in Mogadishu the work of the Mission was carried out in various ways. This involved -

a) headquarters discussions with officials,
b) field travel for direct observation of agricultural, pastoral and social conditions,
c) consultation with local officials and representatives of all sections of the community, including chiefs of tribes, other Somali people, business interests, missionaries,
d) visits to schools, hospitals and dispensaries, training centres, experimental centres and other governmental institutions.

In the course of the work of the Mission every one of the six Commissariats was visited. All of the members visited Villaggio Duca degli Abruzzi, Balad, Genale and Afgoi (Benadir Commissariat) during the second week of our stay. The longest tours through the Webbe Shibeli, Upper Juba and Lower Juba were subsequently made by the agricultural, pastoral and nomadic specialists, who travelled together. A first tour through Southern Somaliland was duplicated, with modifications, by the public health expert. In a second tour through the Upper Webbe Shibeli, thence to Mudugh and the Midjurtein, the agricultural, pastoral and nomadic specialists were joined at Galcaio by the other members of the Mission for visits to northern points. Mr. Fielding-Clarke, in the course of visiting the majority of the schools (some of the more remote being seen by Mr. Feral in the course of his journeys inland) made three treks, Mr. Dean made two.

H. E. Ambassador Fornari received the Mission twice during its stay for discussion of its preliminary findings. We are grateful to him for his interest and hospitality, and to his executive staff for their cooperation.

To Dr. v. Zadotti, who served in a liaison capacity with the Mission, we are grateful.

1/ Mr. Pechanec interrupted his stay to pay a brief visit to British Somaliland to consult on livestock development programme.

Mr. Bond, Mr. Feral, Mr. Fielding-Clarke and Mr. Pechanec returned by way of Kenya. Mr. Bond also went to Uganda, and Mr. Fielding-Clarke to the Anglo-Egyptian Sudan. The technical consultations arranged with the governments and the East Africa High Commission were most helpful in the respective fields of interest.

2/ Benadir, Webbe Shibeli, Upper Juba, Lower Juba, Mudugh and Midjurtein.
Acknowledgements are also due to the many officials and individuals without whose assistance and knowledge of the country to the Mission could not have been able to cover so much ground in so short a time; and to the officials of British Somaliland, Kenya, the East Africa High Commission, Uganda and the Anglo-Egyptian Sudan who generously facilitated technical consultation by various members of the Mission.

It was always made possible for the Mission to talk with the indigenous peoples of Somaliland, and conversations with them were most fruitful.

We also wish to express our gratitude to the Food and Agriculture Organization of the United Nations for providing the facilities before and after our return from Somaliland, to assist the Mission's work.

Owing to the recent establishment of the Italian Administration, there are gaps in the technical and statistical materials - indeed very little in the way of basic economic statistics and research which are to be taken into consideration. Much work remains to be done along fundamental lines in the way of statistical organization, economic study and research before the Territory's problems can be fully understood. 1/

It is nonetheless clear that the economy rests essentially on agriculture (in the broadest sense) and that sound investment in the improvement of the education, health and social welfare of its people, will contribute to economic and social advancement. The economy has not been viable, even at a low level, since the advent of European administration; and though directions and specific measures needed for progress may be indicated, the Mission does not pretend to foresee rapid improvement in the fundamentally deficitary character of the economy.

1/ Studies of savings and investment, thorough analyses of balance of payments problems, and a pilot study of national income. The United Nations provides technical assistance in these fields, but improvements in statistical organization and economic study are essentially a responsibility of the Administering Authority.
FOREWORD

Dr. William H. Dean, Chief of the Technical Assistance Mission to the Trust Territory of Somaliland, died shortly after returning from the Territory. He had not been able to complete the Mission's report at that time. Dr. Dean's functions included that of economist for the Mission and co-ordinator of the work and reports of the various specialized technical experts who comprised the Technical Assistance group. It was decided to prepare a report in fulfillment of the terms of the Technical Assistance Mission even though Dr. Dean's comprehensive knowledge of economics in general, and Somaliland in particular, would not be available in its preparation. Part I of the report has been drafted by a specialist closely associated with late Dr. Dean.

Dr. Dean's notes and records of interviews with officials and other qualified persons in Somaliland provided a basic source of information for the present report. In view of the special circumstances, however, it was deemed necessary to include in the report as complete a description of the economy and related aspects as could be obtained from intensive and extensive research in the published accounts of the Territory. This description, which constitutes Part One, Chapter II of the report, thus provides the basic data which support the recommendations offered in Chapter I. It should be noted at this point that Section 7 of Chapter II, "A Note on Transportation," and the Preface have been incorporated in the report without change from materials prepared by Dr. Dean. In addition, the descriptive data on minerals and mineral explorations and surveys have been drawn entirely from Dr. Dean's material.

The reports of the specialized technical experts, which constitute Part Two of this report, have been included without change except for a few unimportant sentences which have been deleted from Public Health. It was found inadvisable to include the report of the Mission's expert on Nomadic Questions, but part of the materials from his report has been used in different sections of the present report.

No attempt has been made to summarize the educational and public health aspects of Somaliland; hence, Part One does not include recommendations in these specific spheres. It is understood, however, that improvements in the system of education and in the health of the population are absolutely essential for achieving lasting economic advances. The Administration is clearly aware of these pre-requisites to economic development and will undoubtedly take into consideration the recommendations of the experts on education and public health in formulating a sound, integrated policy of social and economic development for the Territory of Somaliland.

So far as was possible, official sources were used in the compilation of statistical and other data for this report. These were supplemented by the most reliable unofficial source material in published form. A bibliography is attached to Part One giving all of the sources utilized, in one way or another, in the preparation of the various sections. Specific bibliographical references in page footnotes have been kept down to a minimum in order to avoid the cluttering of each page with numerous references which were used for the statements or statistics appearing on the page. Frequently, a single statistical table was drawn from a wide number of official and unofficial sources, too numerous to include as a footnote.
Value figures throughout the report have been given in current United States dollars (conversion rates are found in footnote a of Table 3, "Foreign Trade of Somaliland," in Part One, Chapter II, Section 5) so as to avoid the confusion of dealing with lire, East African shillings and somalos. The following symbols have been used: two dots (...) means not available; dash (-) means nil or negligible. Pre-war always refers to 1932-1934 in respect of trade value figures, and 1930-1934 in respect of trade volume figures. It was necessary to use the period 1932-34 for values because in 1932, the Government changed its system of valuing trade commodities and this change distorted the value figures of previous years. The years after 1934 were omitted because of the change in the political boundaries of Somaliland as a consequence of the war with Ethiopia; hence, post-1934 trade and other statistics do not represent accurately the situation in Somaliland as now constituted.
PART ONE

LAND, POPULATION AND ECONOMY
CHAPTER I. SUMMARIES AND RECOMMENDATIONS

INTRODUCTION

The central aim of this report is to indicate the positive steps which can and should be taken by the responsible authorities in Somaliland to achieve an improved standard of living for the population. There is no question that an integrated and sustained effort will be necessary to fulfill this aim, and, in view of the present condition of the Territory and its inhabitants, progress in the desired direction may be slow. It is perhaps best to set forth at the outset the negative factors involved in formulating plans and programmes designed to develop the social and economic resources of the Territory.

The Territory is of immense size, inhabited by a scanty population, and in many parts subject to unfavourable climatic conditions. The traditional modes of economic activity are still relatively primitive. Costs of internal transport are high and lend themselves to reduction only by a fairly considerable capital investment. The greatest part of the population derives its living from livestock holdings and simple agriculture, exchanging surpluses to meet essential needs. Secondary industry is not extensive and devoted primarily to products for the home market. The labour force is small and largely unskilled. Since the advent of European administration, Somaliland has had deficits in its balances of payments and depended on external subventions for the support of its government and public developmental expenditures.

The general condition of the indigenous population is poor. Primitive housing, the lack of pure drinking water, an inadequate diet and widespread poverty are among the factors reported by the Mission's Expert in Health Matters as responsible for many of the debilitating diseases afflicting the inhabitants. Educational facilities and standards are low; according to the Mission's Expert in Educational Matters, outside Mogadishu, the administrative centre, there exists only a limited number of schools which provide primary instruction.

In spite of this formidable list of negative factors, careful examination of the various sectors of Somaliland's economy in relation to the Territory's human and physical resources reveals numerous lines of potential improvement. Although the Territory has few known mineral resources, and natural resources are thus limited to the land and sea, the potentialities for improved utilization of these resources are very large in relation to present yields. In agriculture, for example, it is clearly possible to extend the productive areas and increase production through relatively simple and inexpensive techniques. Small, well-organized projects could substantially expand the value of livestock products in the economy of the Territory. The development of new secondary industries based on local raw materials is possible and necessary. Unutilized manpower is available for such developments and for employment in capital construction. The persistent negative trade balances need not continue if adequate policies are adopted in the sectors of agriculture, animal husbandry and industry. Budgetary deficits, which have required external subventions in order to maintain the administrative and military structure as well as public capital investments in the Territory, lend themselves to substantial reduction through the effecting of economies in administration and the military forces.

The social and economic needs of Somaliland are unquestionably great. Although
the acquisition of external capital by means of private and/or public investment
would assist considerably in promoting the development of the Territory, and may be
necessary for financing part of the capital equipment which must be imported, local
resources can contribute substantially to the provision of capital facilities. It
should be emphasized, moreover, that many development projects do not have to wait
upon external capital investment.

The major emphasis in this report has therefore been placed on the development
of the internal resources of the Territory for the direct needs of the indigenous
population. More food and a better balanced diet, adequate housing, proper educa-
tional facilities and medical services are the basic needs of the inhabitants. It is
the Administration's task and duty to formulate its policies in such manner as to
provide increasingly the conditions for improving the standard of living of the popu-
lation. Ultimately, of course, the responsibility for social and economic advance
rests on the Somali people themselves, and to the extent that they accept this re-
sponsibility will correspond whatever advances are achieved.

A. AGRICULTURE: ESSENTIAL FEATURES AND RECOMMENDATIONS

Essential features

Although crop husbandry is limited to a small fraction of the total land area of
the Territory -- less than one per cent -- approximately one-half the indigenous
population, including the mixed-farming group, derives its basic subsistence from
cultivation of the soil. In addition, the large segment of nomadic pastoralists de-
pends upon domestic agricultural production for its staple agricultural foodstuffs,
particularly grain. Agriculture further provides products for export to the extent
of one-third to one-half the total value of exports, and thus provides income which
makes possible the importation of commodities required by the population and which
are not produced locally.

The largest part of indigenous agriculture depends upon an irregular and un-
certain rainfall, and recurrent droughts subject the population to constant threats
of crop failure and famine. The Italian sector, on the other hand, consists entirely
of modern irrigated agriculture which was established in the pre-war period with sub-
stantial financial and technical assistance and equipment from the colonial admin-
istration then in control.

Indigenous farmers utilize the simplest tools and techniques and concentrate on
the growing of staple food crops such as durra (sorghum), maize, beans and sesame
seed, which they in part consume and sell or exchange the remainder to obtain
additional foodstuffs and commodities necessary for their existence. Italian agri-
culture concentrates on the production of commercial crops, mainly for export, util-
izing indigenous labour on a wage basis or through contractual co-participation agree-
ments.

Indigenous agriculture has not been capable of supplying much more than a sub-
sistence level of consumption and generally, at a low nutritional level. The avail-
able evidence indicates that consumption levels have fallen in recent years, particu-
larly in respect of the basic grains, durra and maize. Higher production of grain in
the pre-war period and immediately after the war supplemented by substantial net im-
ports of grain, while lower production in the period 1948-1950 was associated with
relatively high net exports of grain. Imported foodstuffs represent an important proportion of the total value of imports, but it should be observed that the greatest part of these imports satisfy the demand of the non-indigenous section of the population. Imported foodstuffs consumed by the indigenous inhabitants are limited chiefly to dates and some tea and coffee.

The leading agricultural export, bananas, derives entirely from the Italian farms. Only the fact that the Italian Government accords specially favored treatment to these Italian-produced Somaliland bananas, by providing a protected market for the product in Italy and by purchasing fixed quantities every year at prices considerably above world market prices, makes it possible for this enterprise to exist at all.

The second leading agricultural export, raw cotton, was formerly produced exclusively on the Italian irrigated farms. Since 1949, however, the crop has been increasingly in production on indigenous farms as well, but since dry-farming predominates in this indigenous cultivation the crop is vulnerable to the hazards of climatic factors.

Numerous plant diseases ravage the crops and reduce yields substantially. Moreover, the presence of malaria, water-borne diseases and tse-tse-bearing flies in much of the best agricultural areas of the Territory tends to limit the productive area in extent, to prevent mixed farming and to afflict the agricultural population with debilitating ailments. Moreover, health, educational and social services in general are either minimal or non-existent in the indigenous agricultural communities.

Governmental aid to indigenous agriculture has been conspicuously lacking, though the provision of credit facilities, storage, transport and marketing facilities, seed loans and general technical assistance are obviously necessary to improve and increase such agriculture, and, thereby, the standard of living of the population.

Recommendations

The essential features of the agricultural economy in Somaliland thus provide important potentialities for expansion and improvement. The Administration must assume responsibility for promoting increased utilization of the land resources of the Territory and determine, by such measures as it sees fit, the methods by which to enlarge the productive area. The following recommendations are all designed to give effect to the potential of increasing the production of agricultural crops.

1. The facts show that there is adequate land available for additional cultivation, including both indigenous-held land and that part of the land ceded to Italian concessionaires which is not, and largely never has been, in use, and which is located in the most favourable agricultural areas where modern irrigation systems exist.

   a. It is recommended, therefore, that the Administration initiate, supervise and finance undertakings which will bring additional useful land under indigenous cultivation. Apart from the uncultivated lands ceded to the Italians, such undertakings would require land reclamation through drainage and irrigation, the control of disease-bearing insects, and the
provision of potable water supplies and social services for newly-settled indigenous communities. There are historical precedents for these projects, providing invaluable experience in respect of methods and costs, in the pre-war development of Italian agriculture in Somaliland.

It is further recommended that the Administration promote a programme for bringing into cultivation unused land now under concession to Italian settlers. In this connection, the terms and conditions of the original concession agreements should be examined with a view to implementing this recommendation.

b. Reclamation of unused land requires principally labour power, which is available in the Territory, rather than large importations of expensive equipment. It is essential, therefore, that incentives be created to facilitate the recruiting of labour for these projects. The Administration is advised, in this connection, to explore the methods which have proved successful in other under-developed areas of the world, particularly in Africa.

c. The United Nations and specialized agencies are urged to give the most sympathetic attention to requests from the Trusteeship Administration for assistance in respect of health problems, education and social services in general.

d. The Administration is urged to proceed at once with the Land Utility Survey recommended by the Mission's Agricultural Expert, and to see to it that this Survey is conducted concurrently with the extension of the productive area of the Territory.

2. The facts show that the productive capacity of indigenous agriculture under present conditions has not been fully realized. This situation has resulted mainly from the use of primitive tools and techniques, poor quality or unsuitable seed, the depredations of insects, losses from plant-diseases and the uncertain rainfall. It should be observed at the outset that the technical improvements required to achieve substantial increases in production are essentially simple, but they are not likely to be widely assimilated unless they are promoted by a centralized effort.

a. It is therefore recommended that the Administration sponsor a government agency which would be charged with putting into effect among the indigenous farmers the relatively simple agricultural practices indicated below to increase production quickly.

i. Good seed should be selected and supplied to indigenous farmers. The necessity for such a measure has been indicated in the report of the Mission's Agricultural Expert.

ii. Improved farm implements should be made available to the indigenous farmers at low costs or through reasonable credit facilities.

iii. The use of fertilizers, which hitherto has been almost entirely absent from indigenous agriculture, should be introduced and combined with a proper rotation of crops as suited to the specific area and the needs of the inhabitants.
iv. An insect control service should be made available to indigenous farmers.

b. It is urged that the Administration establish small-scale agricultural experiment stations in central locations in the indigenous farming areas. These stations would demonstrate, through model farm plots, improved agricultural practices and the benefits to be derived therefrom to local farmers. In addition, direct instruction could be provided indigenous farmers, particularly young men and women, in the methods necessary to improve and increase production.

c. The Food and Agriculture Organization of the United Nations is urged to give the most sympathetic attention to requests from the Trusteeship Administration for assistance in working out plans and programmes for the better utilization of the land resources of the Territory in respect of the application of immediate and relatively simple improvements.

3. The facts show that the production of agricultural food crops for indigenous consumption barely meets the low requirements of the population, and, in periods of drought, shortages and famine conditions prevail. Moreover, production of the basic grains in recent years has been appreciably below pre-war levels.

a. In the light of the drought hazards to which the Territory is naturally subject, it is most important for the Administration, in determining its policy of land utilization, to promote the development of the composition of crops for indigenous consumption in such manner as to take into account that over a period of years insurance against droughts is also required. It is essential in this connection to extend irrigation to the cultivation of food crops by indigenous farmers. To date, irrigation has been used principally for the production of commercial crops on land controlled by Italian concessionaires.

b. The recommendation of the Mission's Agricultural Expert in respect of establishing adequate facilities for the storage of grain should receive the immediate attention of the Administration. At present, grain growers store the crops in crude pit silos which give rise to a certain amount of rotting and losses from insects and rodents. Proper storage would not only safeguard the grain to meet needs during periods of short supply, but it would make possible the reduction of grain imports at prices considerably above the prices obtained for domestically-produced grain. In the three-year period 1948-1950, for example, imported grain commanded prices averaging about twice as much as the prices received for exports of territorial grain.

c. The Administration is also urged to encourage the production of commercial crops which would provide the raw materials for an expansion of existing industries and the development of new industries. These are discussed below in the section on specific crops.

d. It is essential that the Administration assume responsibility for the provision of agricultural credit to indigenous farmers, including seed loans, and for establishing adequate transport and marketing organizations.
to serve these farmers in the disposition of their produce. Such facilities were made available to the Italian concessionaries, as shown in the text section on Agriculture.

Specific crops

1. The basic food crops produced in the Territory and consumed by the indigenous population include durra, maize, beans, sesame seed and groundnuts. These dietary items are supplemented by small quantities of manioc, fruits and vegetables, sugar and imported dates, tea and coffee. The crops which enter into foreign trade consist principally of bananas, oilseeds and the incense, myrrh and aromatic woods gathered in the Midjurtein region by nomadic pastoralists. Rice is grown in the Territory, but, except for the war years, domestic production has not met the demand of that segment of the population which largely consumes this food, namely, the Arabs, Indians and Pakistanis. Substantial quantities of fresh and preserved fruits and vegetables are also imported into the Territory, primarily to satisfy non-indigenous requirements.

In planning programmes of agricultural development, the Administration should take into account the following factors: (1) the precarious food situation in the Territory; (2) the need to develop secondary industries based to the greatest extent possible on the utilization of domestic raw materials; and (3) the chronic negative balance in merchandise trade. This will mean primarily an increase in grain production, but efforts should be made as well to increase domestic output of other food crops, such as beans, oilseeds and fruits and vegetables. With respect to commercial crops for use as local industrial materials, the emphasis should be on the production of cotton for the new textile industry, other fibres such as sisal and kapok, and oilseeds.

2. The following recommendations are intended to supplement those made by the Agricultural Expert of the Mission in his technical report.

Food crops:

a. Dates. Small quantities of dates are produced in the northern part of the Territory. However, substantial quantities are imported every year to meet the demand of the indigenous inhabitants for this staple item of their diet. In the period 1948-1951, for example, an annual average of over 13,400 quintals of dates were imported (22,577 quintals in 1951), accounting for 1.5 per cent of the total value of imports: in 1946, date imports represented 5.5 per cent of total import value. It is recommended that the Administration explore the economic possibility of increasing present production levels in the Territory and the establishment of additional date-growing areas where feasible.

b. Oilseeds. Considerable quantities of sesame seed and smaller quantities of ground-nuts are grown in the Territory. In view of the world shortage of edible fats and oils, which is not likely to disappear in the near future, expansion in the cultivation of oilseeds may well be warranted. Most of the oilseeds which now enter into the export trade leave Somaliland in an unprocessed state, although several modern oil mills operate in the Territory and their owners have complained that they cannot keep the mills working at capacity owing to shortages of oilseeds. It is therefore urged
that, so far as possible, oilseeds destined for export be processed at home, and that production be increased to meet the needs of the oil mill operators. Additional advantages to be gained from domestic processing would be lower transport costs of the oil and the higher prices received for the product.

c. Sugar. The Territory now produces approximately 50,000 quintals of sugar annually, and domestic demand is estimated at about 80,000. Official statements indicate that plans are under discussion to undertake sugar cane cultivation in the Juba region and, possibly, to erect a sugar mill there; at present the crop is cultivated exclusively by S.A.I.S., which also owns the only mill in the Territory. It is urged that these plans be put into effect as soon as possible to satisfy home needs. In 1951, over 33,000 quintals of sugar were imported, representing 5.4 per cent of the total value of imports.

d. Rice. It is recommended that rice production be expanded to meet domestic requirements and thus eliminate the necessity to import the product. It should be noted in this connection that self-sufficiency in rice was practically achieved during the war years. In 1951, nearly 21,500 quintals of rice were imported, accounting for 3.2 per cent of the total value of imports.

e. Fruits and vegetables. These food items have been imported in increasing quantities in recent years. In 1951, imports of fresh and preserved fruits and vegetables accounted for nearly 2 per cent of total import value. It is recommended that domestic production be expanded to meet the local demand for fresh fruits and vegetables with a view to making available ample supplies of these important nutritional food stuffs for home consumption at reasonable cost to the indigenous consumer. The recommendation of the Mission's Agricultural Expert in respect of developing citrus fruit cultivation in general, and lime tree cultivation in the barren northern region in particular, should receive the immediate attention of the Administration. The recent establishment of a factory for producing fruit juices and preserved fruits, both for home consumption and for export, marks the initial attempt to process home-grown fruits in the Territory.

It should be observed that the aforementioned products — dates, sugar, rice and fruits and vegetables — together represent a significant proportion of the total value of imports (more than 12 per cent in 1951), and that all of them are produced in the Territory. Increased domestic production of these crops would reduce considerably the dependence upon imports, decrease the import surplus, make the products available at lower cost in the home market and supply raw materials for local industries. The Administration is therefore urged to encourage measures which would stimulate higher output of these crops in the Territory.

Export crops

a. Cotton. The Administration is urged to support the newly-developed indigenous cotton cultivation, and assume responsibility for its development along lines which will benefit the economy of the Territory to the
greatest extent possible. In the first place, the cotton crop should be grown in association with food crops to ensure the subsistence of the farmers. Secondly, irrigation should be extended to indigenous cotton cultivation as rapidly as feasible to safeguard the farmers from the vagaries of the climate. Thirdly, the Administration should supervise most closely the co-participation contracts negotiated between Italian concessionaires and indigenous farmers; specifically, it is the Administration's responsibility to see to it that the conditions of these contracts are reasonable and that the indigenous farmer obtains adequate payment for the cotton he grows. In this connection it might be advisable for the Administration to create a governmental board to supervise and regulate all aspects of cotton-growing under co-participation arrangements. Finally, the Administration might explore the possibility of recovering land held in concession, and not in use, for the purpose of establishing indigenous community projects devoted to the growing of cotton (and food crops). The Gezira project in the Anglo-Egyptian Sudan might well serve as a model for such developments.

The recent establishment of a textile plant in the Territory is clearly a step in the right direction. Every effort should be made to provide this plant with the raw material necessary for the production of cotton piece goods now imported. The Territory has heretofore concentrated on the growing of long-staple, high-value cotton which commands a favorable market at good prices. However, since short-staple cotton is used in the manufacture of piece goods population among the indigenous population, the extension of economical short-staple cotton production should be promoted fully to eliminate, so far as possible, dependence upon the import of this raw material. The recommendations of the Mission's Agricultural Expert on cotton-growing should receive the Administration's immediate attention.

b. Bananas. Approximately one-quarter of the irrigated land cultivated by Italian concessionaires is devoted to the production of bananas. This crop rests on an unsound economic foundation owing to heavy production, crating and transport costs which prohibit its sale in the world market in competition with bananas produced in other countries. Banana cultivation flourishes in Somaliland only by reason of the protected market the product the market enjoys in Italy and the high prices paid by Italy to the Italian concessionaires in the Territory for the product. Moreover, only between one-quarter and one-half of the crop produced is purchased by Italy, the remainder in part being sold locally and in part (apparently a large part) going to waste. Nevertheless, since the revival of the banana industry in Somaliland in the post-war period, production has been increased considerably every year. In the light of the status as an independent state which Somaliland will achieve in 1960, it is difficult to foresee what will happen to this banana industry once the Italian props are removed. It might be well, in the meantime, for the Administration to explore the possibility of gradually substituting for bananas such crops as will prove more economically sound and contribute more to the general economic welfare of the inhabitants of the Territory in conformity with the foregoing recommendations.

c. Incense, myrrh and aromatic woods. The recommendation of the
Mission's Agricultural Expert in respect of these products merits the immediate attention and the complete support of the Administration. It may be advisable, in addition, for the Administration to create a small governmental agency charged with the task of supervising all aspects of this industry, which is so important to the poverty-stricken nomadic inhabitants of the barren Midjurtein region.

d. **Castor beans.** In view of the increasing world demand for castor beans in recent years, a demand not likely to decrease because of the use of this product in the making of plastics, it is recommended that the Administration consider action to revive castor bean cultivation in the Territory. In the pre-war period fairly considerable quantities of the bean were produced -- over 13,500 quintals in 1931 -- and the product was used by the Italians in the Territory chiefly as a source of lubricating oil.

e. **Other fibres.** The Administration is urged to explore possibilities of growing fibre crops in addition to cotton, particularly sisal and kapok. These products are in high demand on the world market and their development in the Territory as an export crop could contribute to the general economy of the Territory as well as aid in equilibrating the balance of merchandise trade. It should be noted that small quantities of kapok have been produced in Somaliland; in 1928, for example, 162 quintals were exported.

3. **ANIMAL HUSBANDRY: ESSENTIAL FEATURES AND RECOMMENDATIONS**

**Essential features**

Animal husbandry sustains nearly one-half the population of Somaliland. The pastoralists pursue a nomadic life under the necessity of obtaining forage and water for their animals in a vast area characterized by limited grazing and water resources and a harsh climate.

The livestock consisting mainly of camels, cattle, sheep and goats, are quantitatively numerous but qualitatively inferior owing to their low level of nutrition and uncontrolled breeding. They depend almost entirely on natural pastures for their food supply.

In addition to its central role in the economic life of the pastoralists, animal husbandry subserves important social, cultural and psychological functions. The animals are sources of food and other products which their owners exchange or sell to procure the means for the purchase of essential supplementary foodstuffs and textiles. Moreover, livestock holding is valued as the noblest of occupations and ownership of large numbers of animals, without regard to quality, carries high prestige.

Livestock products are important in the export trade of the Territory, accounting annually for a significant proportion of the total value of exports. However, the products, principally hides and skins, ghee and animal fat, are poor in quality primarily as a result of the primitive production techniques practiced.
The reluctance of livestock owners to sell their animals in regular supply has prevented the establishment of an industry in the Territory which could process the meat and develop the economic utilization of animal by-products. For the same reason, there has not developed any considerable market in live animals, though official reports indicate that a demand exists inside and outside the Territory for cattle, especially those from the Juba region.

Recommendations

Somaliland's physical resources, as known at present, dictate that a large part of the population will continue to depend upon animal husbandry for a long time to come. The area of current and potential agricultural cultivation is relatively small; mineral deposits are insufficient in quantity and quality to merit economic exploitation; and local industries are few and small-scale and not likely to expand at a rapid rate because of the Territory's scanty raw materials and the lack of skilled personnel among the indigenous population.

1. The facts show that livestock and livestock products are highly valuable economic resources. However, the generally under-developed state of animal husbandry, in which extremely backward practices prevail, prevents the population from realizing an adequate return in social and economic goods from this sector. It is quite clear that a considerable and many-sided effort will be required to improve this sector to the extent that the contribution of animal husbandry to the economy and general welfare of the Territory will be more in keeping with its potential. The Administration is most strongly urged, therefore, to assume responsibility for the rational organization of animal husbandry in the Territory.

The following recommendations are intended to supplement the excellent technical and other recommendations made by the Mission's Expert on Livestock and Natural Pasture.

a. It is recognized at the outset that the most compelling and continuing problem in the pastoral sphere is the establishment of a regular and stable flow of livestock and their products to the rest of the population. Although this is obviously a long-range problem not susceptible of immediate solution, it should be kept in mind that no basic solution is possible without an eventual settling of the nomadic pastoralists in fixed areas. It is therefore urged that the Administration take the necessary steps to determine which incentives would encourage the voluntary settling of nomadic groups -- e.g., the provision of areas containing good pasture land and adequate water supplies; the provision of consumer goods desired by the pastoralists in locations readily accessible to settled groups; the provision of educational and health facilities in localities which could be developed into community centres for such groups; etc. The reluctance of Somalis to sell surplus livestock holdings, which is deeply rooted in their traditional social and cultural patterns, must be met by the provision of incentives to encourage such sales along with a programme of education stressing the advantages they will gain by the regular marketing of animals and their products. It is further recommended, in these connections, that the Administration examine the experiences in other parts of Africa where similar problems have been encountered, with a view to designing concrete and workable programmes for
settling nomadic pastoralists and inducing them to improve their stock and market their surplus animals.

b. In view of the major importance of livestock products in the economy of the Territory, steps should be taken immediately to improve the quality of these products. This would yield a greater return to the producers. A school has already been established where Somalis can learn to improve the production of hides and skins. This is an excellent beginning, but clearly inadequate for the needs of the Territory. It is therefore recommended that several small schools, each with a technical specialist, be located in those places where pastoral nomads tend to congregate for a few weeks at a time. Thus, the Somalis could learn proper flaying, branding and curing methods at home, so to speak, where hides and skins are usually prepared in any case. A workable and possibly preferable alternative would be the creation of mobile units that could travel directly to the bush inhabitations of the pastoralists and demonstrate the proper methods of handling livestock products. The recommendation of the Missions Expert on Livestock and Natural Pasture in respect of re-organizing the Administration's Bureau of Agriculture and Livestock and emphasizing extension work with the indigenous peoples should receive immediate attention and full support.

c. The indigenous producer of hides and skins frequently incurs losses as a result of the practice of selling these products in bulk lots without distinction as to quality. It is urged, therefore, that, along with the efforts to improve the quality of livestock products in general, the Administration should take steps to develop a system to classify and standardize these products on the basis of quality. It is further recommended that the Administration consider the possibility of creating a marketing organization charged with supervising and controlling the purchase and sale of livestock products. The successful Marketing Boards operating in British West Africa could well serve as models for such a development in Somaliland.

d. The Administration is urged to explore the possibilities of developing the commercial utilization of sheep, goat and camel hair. In this connection, it would be advisable to consult the Food and Agriculture Organization of the United Nations.

C. INDUSTRY: ESSENTIAL FEATURES AND RECOMMENDATIONS

Essential features

Local industries are few, small and devoted principally to the production or commodities for home consumption. The raw materials for these industries derive from the agricultural and livestock sectors of the internal economy. A small and largely unskilled labour force is employed in industry.

The Territory possesses one relatively large-scale industrial enterprise, the Societa Agricola Italo-Somala (S.A.I.S.), which combines the cultivation of sugar and other commercial crops with the operation of a sugar mill, an oil mill, a cotton gin, a soap factory and an electric power plant to service these enterprises. Other-
wise, with the exception of the Azienda Elettro-Industriale de Vincenzi which operates the largest electric energy plant in the Territory as well as an oil mill, a cotton gin and a water and ice plant, the remaining industries are small in size and with very limited productive capacity.

At the present time practically all of the Territory's industries are operating well below their capacities, owing, it is claimed, to shortages of raw materials and skilled labour.

The sugar industry produces about 50,000 quintals of sugar, some 30,000 quintals short of estimated current domestic requirements. Production costs are high, but local sugar competes favorably with imported sugar owing to the latter's heavy transport and loading charges.

For the first time a textile plant has been established in the Territory. The plant plans to produce cotton goods for the indigenous population, using, in the beginning, imported short staple cotton. Annual productive capacity is estimated at over 1 million metres, or roughly about 15 per cent of the quantity of cotton piece goods now being imported annually. Experiments in the growing of short staple cotton at home are underway with a view to supplying the local textile industry. The current rate of indigenous consumption of cotton textiles is low compared with other underdeveloped countries.

The three oil mills at present in the Territory are being enlarged and a fourth mill may be constructed, although production in recent years has been well below existing capacity. The new boom in cotton cultivation and possible expansion in the production of sesame seed and ground-nuts are probably the main reasons for increasing local oil pressing capacity. Meanwhile, the Territory has been exporting considerable quantities of unprocessed oilseeds and only a tiny quantity of expressed oils.

The several soap factories in the Territory have not supplied domestic requirements, although their productive capacity clearly exceeds local needs. Hence, substantial quantities of soap are imported every year. In addition, the basic ingredient in local soap-making, coconut oil, is entirely imported owing to a complete cessation in the cultivation of coconuts since the pre-war period. The poor quality of local soap, mainly due to ineffective deodorizing of the animal fat used in the soap, has prevented its popular acceptance at home.

The tanning and leather industry has attained only minor importance in spite of the fact that the raw materials for this industry are abundantly available from domestic production. Production of shoes acceptable to the local population has not been achieved; as a result, local needs are filled by imports. This failure is attributed to obsolete equipment, poor management and the lack of technical skills of the workers employed in the industry.

The fishing industry, dormant since the beginning of World War II, is being revived by the same companies that operated formerly. Prospects for its successful economic operation cannot be assessed at this time. It should be noted that even when the industry was functioning at a peak before the war, its total contribution to the economy of the Territory was insignificant. The companies paid extremely small concession fees; revenue from the export of fish products was not large; and there was some outward flow of profits. Considerable expenditures will be required
to re-establish the fishing industry on its former basis. Commercial fishing is also being attempted in the southern part of Somaliland. A company has been formed to purchase spiny lobster and other fish from the local fishermen for canning and export.

The salt industry has been inoperative since the outbreak of World War II, when much of the equipment was removed. This industry accounted for a significant portion of the Territory's export trade before the war. Plans are under consideration for the rehabilitation of the salt works on a more modest scale than formerly prevailed with a view to reducing production costs.

Electric power production in Somaliland is quite low, reflecting the under-developed state of industry. A total of some 5.7 million kilowatt hours is generated annually. Per capita consumption averages about 4.5 kwh., which is extremely low even among other under-developed countries in Africa.

Apart from the utilization of certain construction materials, no mineral industry has been developed in the Territory. Surveys of the mineral resources of the Territory have taken place from time to time, but no thorough investigation has yet been made. The Administration is encouraging the exploration of the Territory's resources through legislation and technical assistance.

The labour force required for the existing industries is adequate in numbers though largely unskilled. In view of the limited labour pool available in the Territory in general, however, there is a strong possibility that any considerable expansion of industries will be confronted with a serious problem of obtaining the necessary workers.

Recommendations

Somaliland, as presently known, does not possess the resources necessary for large-scale industrial development. Hence, the emphasis must be placed on the improvement of existing industries and the establishment of additional light industries which will contribute to the economy and general welfare of the Territory. At this time most of the small industries operating in the Territory are controlled by non-indigenous persons, especially Italians. Since Somaliland is scheduled to achieve the status of an independent state in 1960, and Italian immigration into the Territory is unlikely to be large until that date, and perhaps nil thereafter, it is essential that every effort be made to prepare a skilled corps of Somalis to take over the important necessary functions in the industrial life of the Territory.

Moreover, it is equally desirable that Somalis increasingly enter into new industrial enterprises, not only as labourers but also in the managerial and owner categories in preparation for their future independent political status. It follows, then, that adequate provision for the education and technical training of significant numbers of the indigenous population must go hand-in-hand with all Administration efforts to put the industrial sector of the economy on a sound basis.

1. The Administration must assume responsibility for the rational organization of existing industries so that productive capacity is not wasted, as at present, and a proper return in goods, services, wages and savings accrues to the population of the Territory. It is therefore recommended that the Administration support, and if need be sponsor, the immediate re-organization and enlargement of those industries producing commodities required in the Territory and which, because of under-production or limited productive capacity, makes
necessary a dependence upon high cost imports. It should be noted that the Administration has been taking steps in this direction and deserves commendation for such efforts.

a. It is urged that every effort be made to produce sufficient quantities of sugar to meet domestic requirements at prices below those of imported sugar. Present plans for the enlargement of the S.A.I.S. mill are therefore commended. Self-subsistence in sugar would eliminate the need for imports and thereby assist in bringing the abnormal balance in merchandise trade more into equilibrium. In 1951, for example sugar imports amounted to nearly 5.2 million somalos, or 5.4 per cent of the total value of imports. The plan to develop the production of sugar in the Juba region for the purpose of export trade cannot be evaluated at this time. It should be noted, however, that sugar is a highly competitive commodity in the world market, and that the large sugar-producing countries can produce the product at costs considerably below Somaliland, granted even that productive costs in the Juba region would be lower than at S.A.I.S. It is possible that the Juba plan rests on the assumption that nearby African territories will provide a market for Somaliland sugar. In any case, caution is recommended in respect of developing sugar production for the export trade.

b. Since the Territory's oil mills are working well below capacity and oilseeds are being exported substantially in an unprocessed state, it is urged that the Administration take such measures as are necessary to ensure the processing of oilseeds at home and limit exports mainly to expressed oils. This would provide the additional benefits of higher prices for the exported oils and savings in transport charges to and on the ships. In view of the (now) chronic world shortage in edible oils and fats, the Administration is urged to explore the possibility of expanding the production of oilseeds sufficiently to provide substantial quantities each year for export.

Indigenous farmers lose a portion—(which may be considerable)—of the oil expressed from their oilseeds (mainly sesame seed and ground-nuts) because of the crude wooden presses used. It might be advisable in this connection for the Administration to establish a small modern oilmill in a location which is central to the indigenous oilseed-growing area to service these farmers at small charges which would eventually amortize the investment in the mill. An alternative plan would be for the Administration to make arrangements with the Italian mill owners to extract the oil from indigenous oilseed crops at rates which would benefit both parties.

c. The Territory's soap factories are working well below capacity, and fairly substantial quantities of soap are still being imported every year. Moreover, coconut oil, the principal ingredient in locally-made soap, is entirely imported, although coconuts were formerly grown in the Territory and the crop could easily be re-established. It is recommended, therefore, that the Administration make efforts to induce local soap manufacturers to increase production sufficiently to meet domestic requirements and to concentrate on products of a quality which will be acceptable to the indigenous purchaser. It is further recommended that coconut-growing be revived to serve the two-fold purpose of supplying the
basic raw material for the soap factories and of supplying an additional
source of edible oil (and copra) for the export trade. The Administration
should take such steps as are necessary to ensure that the soap manu-
facturers meet reasonable standards of quality and purity in the produc-
tion of the product.

d. The production of hides and skins is a major economic activity in
the Territory. Hence, the potential exists for a substantial development
of a local tanning and leather industry which could serve domestic needs
for the products of such an industry and, perhaps, supply certain products
to the export trade. It is recommended that the Administration take the
following steps to establish the tanning and leather industry of the
Territory on a sound economic footing as a contribution to the general
welfare of the population:

1. The Administration should aid in financing the rehabilitation
of the existing plants by making available long-term loans at low
interest rates to the present owners, on the condition that these
owners fulfill certain fixed standards of management, production and
employment in their plants.

ii. The Administration should establish a small vocational
school specifically designed to train Somalis in the technical skills
necessary for the development and maintenance of a modern tanning and
leather industry. Such a school might well be associated with the
newly-founded school for the improvement of hides and skins mentioned
before. Thus, the students would have the opportunity of learning all
phases of the industry.

iii. Coincident with the expansion of leather tanning full en-
couragement should be given to the establishment of a footwear in-
dustry based upon local supplies of leather. This could be carried
out in similar fashion to that of the textile industry outlined in II
(a) below.

2. The Administration is urged to support the development of new indus-
tries in the Territory, concentrating, so far as possible, on these industries
which can utilize raw materials locally available. In this connection it may
be advisable for the Administration to create a governmental agency charged
with the specific task of encouraging and aiding private investors in the es-
tablishment of industrial enterprises in the Territory by making available
technical advice, credit and other financial assistance. In addition, the Ad-
ministration, through such a governmental development organ, may find it ad-
visable to establish public-financed and public-controlled industries which
would contribute to the economy and general welfare of the Territory.

a. The Administration is most strongly urged to lend its full support
to the establishment of a textile industry in the Territory which will
eventually meet the needs of the inhabitants for textiles. The new textile
factory in Mogadishu is a commendable first step. Experience in other
under-developed countries has shown that a textile industry can be de-
veloped with relative ease, since it requires small capital investment
(compared with heavy industry) and an adequately skilled labour force can
be trained quickly.\footnote{It\textquotesingle{}y, op. cit., p. 47} Furthermore, Somaliland enjoys the advantage of having a corps of experienced spinners and weavers in the producers of futas Benadir. Every effort should be made to expand these home or cottage industries, concurrently with the establishment of larger plants, by making available to the draftsmen improved looms and low-cost raw materials. A government-sponsored programme designed to help these craftsmen achieve a better return for their labours would not only give immediate benefits to the individual families concerned, but it would provide a basis for increasing the numbers of spinners and weavers considerably and thus increase the production of cotton goods correspondingly.

Textile imports, especially cotton piece goods and yarns, now constitute a major item in the trade of the Territory. Obviously, the closer that home production of textiles approaches the needs of the inhabitants, the narrower will become the currently large gap between import value and exports. Moreover, it may be possible to reduce the price of textiles to some extent in the domestic market, given a proper organization of the home industry and the utilization of home-grown cotton.

It is recommended that the Administration continue to experiment with the growing of short staple cotton, which is used in the piece goods purchased by the indigenous population, in order to provide a sound economic basis for the eventual provision of domestic cotton to the local textile industry. The establishment of short-staple cotton cultivation does not need to displace the present production of high quality long-fibre cotton; it should be an additional crop.

b. A well-organized fishing and fish-canning industry could undoubtedly make a greater contribution than hitherto to the economy and general welfare of the Territory. It is recommended, therefore, that the Administration request immediately the services of a fisheries expert from the Food and Agriculture Organization of the United Nations to help establish fishing and the processing of fish products on a rational basis. Meanwhile, the Administration is urged to consider the following recommendations which are designed to aid and assist in the establishment of a sound fishing industry.

i. It is recommended that the Administration locate a small staff of fisheries experts, in northern Somaliland where the fishing industry is centered. Thus, the necessary technical services would be available to the industry at all times.

ii. The absence of potable water supplies in the fishing villages and towns and an insufficient supply of labour are among the reasons cited for the backward state of the fishing industry in the Territory. It is recommended, therefore, that the Administration initiate a public works programme in the region designed to improve the living conditions of the inhabitants. This would mean making potable water readily available in the inhabited centres, perhaps through pipelines from the distant water sources, and the creation of centrally located social services, such as schools and medical institutions, which would provide incentives for the settling down of the inhabitants.
iii. It is recommended that the Administration take the necessary steps to improve landing facilities in the fishing region as part of its public works programme.

iv. The Administration is urged to implement its plan involving the purchase of 150 to 200 indigenous fishing boats (uri) which would be turned over to those indigenous fishermen lacking them. An arrangement could possibly be made with these fishermen to pay for the boats in small installments -- either cash or fish -- over a period of years.

v. It is recommended that the Administration, through adequate legislation and supervision, establish wage-scales and conditions of work for fishing industry employees which would be sufficiently attractive to settle a stable and adequate labour force in the industry.

c. In view of the important role the salt industry played in the economy of the Territory before the war, it is recommended that the Administration make every effort to re-establish the industry on a stable economic basis. This would assist the Territory in equilibrating its external accounts and provide employment for the poverty-stricken indigenous inhabitants of the Midjurtein region. The following suggestions are designed to give effect to such efforts.

i. The Administration should continue its efforts to dispose of existing stocks of salt -- nearly 500,000 tons -- to obtain part of the finance needed for the re-equipment of the salt works. Since Japan was the principal purchaser of Somaliland salt before the war, it might be possible to work out a trade agreement for the exchange of the salt for, let us say, Japanese textile equipment.

ii. Although current plans for the re-establishment of the salt industry contemplate a modest installation of equipment compared with the pre-war salt works, fairly substantial funds will be required to finance the project. The Administration has been considering approaching the International Bank for Re-construction and Development for a loan to cover costs. The Administration should continue its efforts in this direction.

iii. In view of the potential importance of the Territory's salt resources, and the need for governmental assistance in financing the re-establishment of the industry, it might be advisable for the Administration to consider setting up a public or quasi-public agency to control the industry for the benefit of the Territory.

d. In view of the Territory's needs in housing, irrigation works and general construction projects, the Administration is urged most strongly to support the establishment of a small cement plant and subsidiary plants which could utilize raw materials available in the Territory -- e.g., a glass-making factory. Such developments could contribute significantly to the internal economy and general welfare of the Territory and assist in diminishing the present negative trade balance.
3. The existing knowledge of the mineral resources of the Territory is incomplete and needs to be supplemented by new surveys and research. The policy of the Administration has centered about encouraging a resumption of exploration and research by external enterprises or inter-governmental mission composed of Italian and foreign technicians. Since the budget of the Territory does not provide funds for any substantial work of geological survey and prospecting, it is recommended that the Administration continue to support its present policy in respect of mineral surveys and research. It is further recommended that this policy be supplemented by a survey conducted under United Nations auspices. A request should be made for technical assistance, similar to that recently furnished Libya, in the form of a team of experts who would prepare a comprehensive survey of Somaliland's geological potentialities.

D. BALANCE OF PAYMENTS AND EXTERNAL TRADE: ESSENTIAL FEATURES AND RECOMMENDATIONS

Essential features

The Territory has for decades had an unbroken series of negative trade balances. Exports as a percentage of imports have ranged from 23 per cent (in 1941) to 70 per cent (1948); in 1951, exports accounted for approximately 60 per cent of the value of imports.

Governmental transfers in the form of budgetary subventions have sustained the levels of imports and other external payments. Changes in the levels of commodity imports have largely reflected the demands of the non-indigenous population and government expenditures in the Territory, while indigenous demands and foreign investments appear to have played minor roles.

The balance of payments statement for 1951 reveals that the net unfavourable balance of merchandise trade (-$U.S. 5.3 million) plus remittances by Italian workers (-$3.6 million) was greater than the transfers of the Italian Government (+$8.3 million). Italian workers' remittances absorbed over 43 per cent of the Government transfers.

During 1951, trade with Italy yielded a dollar surplus of approximately $150 thousand, and trade with the dollar area also resulted in a small surplus, about $132 thousand. The over-all deficit in the merchandise account arose out of trade with the sterling area, which provided nearly one-half of the Territory's imports while taking about 10 per cent of the exports. The deficit with the sterling area amounted to over $5,970 thousand in 1951. In that year, Italy absorbed 87 per cent of the Territory's exports, while supplying slightly more than 50 per cent of the imports.

Total external trade in 1951 reached $17.5 million, a considerable increase over the previous year and more than three times greater than average pre-war (1932-1934) levels. Both import and export values followed about the same trend as total trade in the period under review. With the exception of a few products, notably the trade in salt, grain and oilseeds, the volume of trade approximated the trends in value.

The Territory's export trade depends almost entirely on the production of a few primary agricultural and livestock products. At the same time, foreign sources supply Somaliland with many basic necessities -- foodstuffs and textiles -- and nearly all of the manufactured products consumed by the population.
Both before and after the war, four products -- hides and skins, bananas, raw cotton and salt -- accounted for nearly four-fifths of total export values; hence, there has been no major change in the composition of exports over the years, except that salt production and export practically ceased with the closing down of the salt works in 1941. However, there have been certain notable shifts in respect of trade in grain (durra and maize) in the period under review; e.g., between 1932 and 1934 imports of grain were quite large, but in the period 1948-1950, fairly substantial quantities of grain were exported. Exports of ghee and camel fat rose appreciably in the post-war period.

Indigenously-produced exports -- mainly livestock and their products -- accounted for an average of over two-fifths of the value of exports in 1948-1951, compared with only one-quarter in the pre-war period. Exports from indigenous agricultural production, however, have been of relatively minor significance in the total picture except for brief periods. The recent adoption of cotton cultivation by indigenous farmers is likely to increase substantially the role of indigenous agriculture in the export trade of the Territory.

Non-indigenous agriculture, mainly Italian, has supplied sugar for domestic consumption and bananas and cotton for the export trade. The emphasis both before the war and since 1949 has been on the production of bananas for export under specially-favored purchase conditions and a certain and protected market in Italy; in 1951, banana exports accounted for 33.7 per cent of the total value of exports from the Territory.

On the import side, foodstuffs and textiles have been the major items, together representing more than one-half the total value of imports on the average in the period 1948-1951. Imports of productive capital equipment have accounted for less than 11 per cent of total import value before and since the war. These imports were used largely to develop Italian agriculture in the Territory and to construct the Italian salt works and fish canneries as well as road and railway facilities connected with these enterprises.

A considerable portion of imported foodstuffs is consumed by the non-indigenous section of the population -- an average of more than 43 per cent in 1948-1951.

The large import surplus recorded every year by the Territory appears to result principally from non-indigenous consumption demands. Since 1948, for example, in respect of the principal indigenous trade products, the value of exported commodities produced entirely by the indigenous sector has approximated the value of imports consumed by this sector, indicating that the indigenous population in the Territory is able to pay for its import requirements.

The major change in the Territory's direction of trade situation since the pre-war period has been the disappearance of Japan as a purchaser of Somaliland salt. In 1932-1934, Japan's purchases of salt from the Territory accounted for more than 13 per cent of the total value of exports.

Recommendations

The facts of Somaliland's external trade show clearly that improvement and expansion are necessary and possible. On the one hand, a rational development of exports is essential to provide the means of acquiring the foreign exchange needed for
essential imports of consumer and capital goods. The Territory must strive, on the other hand, to reduce inessential imports through such measures as will strengthen the internal economy and thereby improve the standard of living of the population. Sustained efforts in these two directions should go far to eliminate the persistent gaps in the Territory's balances of payments. Balance of payment deficits are, in respect of amount, partly dependent on budgetary subventions and other governmental transfers related to administrative and developmental expenditures in the Territory. It may be assumed that at some stage these subventions will tend to taper off.

The Administration must assume responsibility for promoting the rational organization of the export sector of the economy by taking such steps as are appropriate to increase its contribution to the economy and general welfare of the Territory. It is of fundamental importance, in connection with programmes for expanding exports, to achieve a contemporaneous advance in food crop production; otherwise, any such expansion, requiring offsetting imports of food, may prove illusory. The indigenous food balance, even at a low level of nutrition, is at best precarious in a semi-arid country like Somaliland. With this reservation in mind, the following recommendations are all designed to give effect to the potential of expanding the export sector.

1. The range of principal exports is now, and has long been, relatively narrow, consisting of raw or slightly processed products of animal husbandry and agriculture. These have been supplemented on a more substantial scale in the past by marine salt and fisheries products (canned tuna). It is unlikely that the Territory can widen the range of export products significantly in the near future. Hence, developmental efforts must concentrate first on improving and expanding existing lines.

a. Livestock products represent authentic export resources capable of expansion. Moreover, the development of these products requires, by and large, little in the way of offsetting imports or other payments. Over the year, livestock products have accounted for from one-fifth to three-fifths of the total value of exports, although the quality of the products has been poor. It is recommended, therefore, that the Administration promote a major developmental effort to improve the quality and quantity of livestock products with a view to increasing their value in the world market and, consequently, their contribution to the Territory. The following lines of development are indicated to achieve this objective.

1. Immediate efforts must be undertaken to improve the quality of hides and skins and ghee. As has been noted in the section on Animal Husbandry, the establishment of a school to teach improved methods of handling livestock products is an excellent first step. It is essential, however, that the Administration create in addition an animal husbandry extension service which would send technically qualified individuals to areas where the livestock holders tend to concentrate and there demonstrate acceptable methods of preparing hides and skins and ghee.

11. The production of certain livestock products is considerably below the capacity of the Territory. This is particularly true of camel hides and the number of live animals disposed of by their owners. It has been estimated that the quantity of camel hides and
live animals now entering the export trade could easily be doubled without any risk of exhausting the stock. In view of the livestock owners traditional reluctance to dispose of their animals, it is the responsibility of the Administration to provide such incentives as will bring about the desired goal. It is recommended in this connection that experiences in other parts of Africa, where similar resistances have been met, be examined carefully for directions leading to the lowering of such resistances.

iii. The present system of producing and marketing livestock products has been described as extremely inefficient. The producers receive an inadequate return for their products and consequently do not have the incentive to provide larger quantities to the market. The Administration must assume responsibility for promoting efficient marketing facilities to service and protect the indigenous livestock holders and thus ensure better prices for their products.

iv. The Food and Agriculture Organization of the United Nations is urged to give the most sympathetic attention to requests by the Trusteeship Administration for technical assistance in establishing animal husbandry in the Territory on a sound economic basis.

2. Marine salt and fisheries products represent important export potentials of the Territory. Before the war, exports of salt accounted for about 16.5 per cent of the total value of exports, but fisheries products never achieved a significant place in the export economy of the Territory. It is recommended, therefore, that the Administration take the initiative in promoting the re-establishment of the salt industry in the Territory, as indicated in the section on Industry. It is further recommended that the Administration continue its efforts to establish an economic fisheries industry in the Territory. It should be observed that the Food and Agriculture Organization of the United Nations has been preparing, in cooperation with the Government of Italy, a programme of technical assistance in connexion with fisheries in Somaliland.

3. Export products leave the Territory principally in a raw or slightly processed state. Hence, the proceeds from these products are relatively low and could be increased significantly by developing a high degree of processing at home. Furthermore, the development of processing plants, and the full utilization of present plants, would contribute to the strengthening of the internal-economy. It is recommended, therefore, that the Administration promote, by whatever measures are appropriate and economically feasible, the development of the highest degree of processing of locally produced agricultural and livestock products so that Somaliland could retain a higher proportion of the proceeds from its exports. In particular, as noted in the section on Animal Husbandry, the Administration should support all efforts to establish a meat and animal by-product processing plant in the Territory which could function on an economic basis. The recommendations noted in the sections on Industry and Agriculture in this connection are relevant.

4. The Administration is urged to support all efforts directed at reducing imports of commodities which may be classified as inessential. For present purposes, inessential imports include those commodities which can be economically produced in the Territory but are now produced in quantities insufficient to
a. In respect of imported foodstuffs, the Administration is urged to promote increased domestic production of the following crops to the extent of at least meeting home demands.

i. Sugar. In 1951, sugar imports were valued at some 5.2 million somalos, or 5.4 per cent of total import value. The Territory requires about 80,000 quintals a year to satisfy domestic consumption, and it now produces about 50,000 quintals. It is recommended that the Administration support present plans to raise local production to 80,000 quintals and thereby effect a substantial reduction in imports.

ii. Rice. In 1951, rice imports were valued at 3.1 million somalos, or 3.2 per cent of total import value. During the war, domestic production of rice was sufficient to meet consumption requirements, and some rice is being produced at present in the Territory. It is recommended that the Administration support efforts to increase home production sufficiently to meet the demand and thereby effect a substantial reduction in imports.

iii. Fruits and Vegetables. In 1951, imports of fresh and preserved fruits and vegetables were valued at over 7.7 million somalos, or 1.8 per cent of total import value. Fruits and vegetables are now grown in the Territory, but in insufficient quantities to meet consumption needs. Moreover, a fruit juice and jam factory has now been established in the Territory. The Administration is therefore urged to promote the increased production of fruits and vegetables both to satisfy home requirements and to provide the materials for local processing of these commodities.

iv. Dates. In 1951, imports of dates were valued at over 1.6 million somalos, or 1.7 per cent of total import value. Although small quantities of dates are grown in the Territory, it is extremely unlikely that production could be raised sufficiently to meet local needs for this basic indigenous foodstuff. Nevertheless, the Administration is urged to explore the possibility of increasing production of dates in the Territory with a view to making larger quantities available at home, perhaps at cheaper prices than imported dates, and to help reduce imports.

v. Grain. The Administration has taken a commendable step in prohibiting the export of maize. The same prohibition should be extended to durra and other staple foods consumed by the indigenous population in the light of the drought hazards to which the Territory is naturally subject. As noted in the section on Agriculture, adequate storage facilities need to be provided in order to keep sufficient stocks of grain and other staples on hand as a safeguard against famines. Increased production of grain and proper storage of surpluses could eliminate the necessity for relying from time to time on imports, which in some years have been substantial.
extent produced in the Territory, accounted for 12.6 per cent of the total value of imports in 1951. It is clear that substantial reductions could be effected in the imports of these commodities relatively soon, given adequate Administration support and promotion of such a policy.

b. In respect of other "inessential imports," the Administration is urged to promote such measures as are appropriate to effect reductions and eventual elimination of imports of soap and coconut oil. In 1951, imports of soap and coconut oil (the basic ingredient in soap making) were valued at nearly 1 million somalos, or 1.1 per cent of total import value. Recommendations in respect of these items have been noted in the section on Industry.

c. Imports of cotton piece goods and yarns were valued at nearly 13 million somalos in 1951, or 13.5 per cent of total import value. The establishment of a textile industry in the Territory has been noted in the section on Industry. It is recommended that the Administration support the development of this industry on an economic basis to meet to the largest extent domestic requirements of cotton piece goods and yarns. In the long run such an industry would considerably strengthen the internal economy and help equilibrate the external balances.

d. In 1951, imports of cement were valued at slightly less than 1 million somalos, or 1 per cent of total import value. This commodity is essential in construction of all kinds. In view of the Administration's stated policy of developing the Territory to achieve an improvement in the economy and the general welfare of the inhabitants, construction materials will be increasingly needed to implement development projects in industry and (irrigated) agriculture. It is recommended, therefore, that the Administration promote the establishment of a cement plant in the Territory, perhaps as a quasi-governmental project, to meet present and future needs of cement with domestic production.

In 1951, Somaliland had an import surplus of $U.S. 5.3 million. The import items listed above were valued at $U.S. 3.8 million, or over 70 per cent of the import surplus. Although the import of all these items could not be eliminated at once, there is no reason why the Administration should not adopt a policy designed to reduce as quickly as possible such "inessential imports" as grain, sugar, rice, soap, coconut oil and fresh and preserved fruits and vegetables. Furthermore, the Administration should also promote the development of a textile industry and a cement plant, not only for the purpose of reducing the import surplus, but with a view to furthering the industrial development of the Territory and thereby strengthening the general economy. Concurrently with this policy should go the policy of promoting an expansion in the quantity and quality of exports, as noted above. The combined effects of these two policies should go far to eliminate the chronic negative trade balances which has so long been a feature of the Territory's trade situation.
E. PUBLIC FINANCE: ESSENTIAL FEATURES AND RECOMMENDATIONS

Essential features

The Trusteeship Administration depends for its receipts on territorial revenue and grants by the Government of Italy. In the fiscal years 1 July 1950/30 June 1951, 1951/1952 and 1952/53, Grants of $U.S. 16.0 million, $9.6 million and $9.2 million, respectively, were expected to be provided by the Italian Government to meet actual and estimated budgetary deficits.

Territorial revenue has been inadequate to cover current civil and capital expenditures; about one-half of these expenditures was covered by grants in two pre-war years (1932-34) and three post-war years (1950-53) dealt with in this report. Thus, at past and current levels of administration and public investment, Somaliland's budgetary position is clearly deficit.

Expenditures in the post-war period on administrative and military functions have expanded considerably; administration costs average about three and one-half times comparable pre-war expenditures, and military expenditures, excluding the abnormally high year of 1950/51, are estimated at about two and one-half times pre-war levels. Expenditures on economic and social services, including public works, in 1950/51 were only about half again as large as in pre-war.

Capital expenditures in the post-war years are (or estimated) well below pre-war, both in absolute amounts and proportionate to total civil expenditure.

On the revenue side, indirect taxes are the principal source of receipts, supplying about three-fourths of total receipts in 1950/51; import duties provided nearly one-third of total receipts. Direct taxes hold a minor position in the revenue structure; in 1950/51, these yielded only 3.3 per cent of total receipts.

The income tax is schedular and levied on annual incomes above 2,400 somalos ($U.S. 336). Absentee income is taxed more heavily, but the Administration is considering reducing the rates. The exemption from income tax of the agricultural income of the Italian concessionaires was ended in November 1951. The Administration may grant temporary income tax exemptions to new agricultural enterprises, and new industrial enterprises are exempt from payment of income tax for a period of ten years.

There is a close relationship between territorial expenditures on administration and the military and the amount of the grants from the Italian Government. In the pre-war period, these expenditures accounted for about four-fifths of the total governmental grants, while in the post-war period, expenditures on administration and the military have been (or were estimated at) slightly more than the total grants-in-aid for the three years.

Current civil expenditures on health and education have been small, averaging about 10 per cent of total current civil expenditures in the pre-war period and about 8.6 per cent in post-war years.

Recommendations

In the light of the status of independence which Somaliland will achieve in
1960, it is clearly necessary for the Territory to make such efforts as are necessary to free its budget from the heavy dependence upon external grants-in-aid. This does not mean, however, that Somaliland should reject aid in the form of external assistance of various kinds (grants, loans, etc.) for development and other necessities, which can be repaid over a period of time. The following recommendations are designed to indicate certain minimum steps which the Administration can initiate and promote immediately as part of its policy of establishing a sound economic and financial basis for the future Somali State.

1. It is recommended that the Administration effect economies to the greatest extent possible in expenditures on the administrative and military superstructure. These economies are particularly essential in view of the obvious needs and desirability of increasing expenditures on economic development, health, education and social welfare. Somalis must be trained as quickly as possible to replace the present Italian administrators, and Italian military personnel must be repatriated as rapidly as possible consonant with the preservation of peace and security in the Territory. Thus, responsibility for the efficient administration of the Territory and for its internal security will increasingly devolve on the Somalis themselves and thereby prepare them for their independent status.

2. The Administration must devise an equitable system of internal direct taxation to provide revenues for economic and social developmental expenditures in addition to the normal continuing needs of administration. This necessitates a great emphasis on direct taxation in accordance with ability to pay, so as ultimately to shift the tax base from external to internal sources. It is further urged that the present tax on absentee income be retained.

3. In view of Administration policy to promote the development of the Territory and the acquisition of independent statehood by Somaliland in 1960, it would be most advisable for the Administration to establish a State Bank in the Territory. Such a State Bank should have the following powers and functions:

   a. To issue currency;
   b. To act as a depository of government funds;
   c. To constitute a mechanism for implementing export and import currency controls;
   d. To aid in gathering development capital;
   e. To serve as a potential source of commercial loans;
   f. To act as the central administrating agency for agricultural and other credit reforms recommended in other parts of this report.

4. As part of the programme for preparing Somaliland for independence, it is recommended that a training project be established to teach Somalis such technical skills as budgetary procedures, taxation, banking and the like. This project should include immediate on-the-job training as well.
CHAPTER II. RESOURCES AND ECONOMY OF SOMALILAND.

A. PHYSICAL AND HUMAN RESOURCES

1. Physical characteristics

The Trust Territory of Somaliland under Italian Administration comprises approximately 515,000 square kilometres inhabited by an estimated population of some 1,246,000. It occupies the southeastern portion of the great East African peninsula, extending from 12 degrees latitude North to 1 degree 39' latitude South, a distance of about 1,900 kilometres along the Indian Ocean. The northern coast fronts the Gulf of Aden for about 250 kilometres. From north to south the Territory first narrows to 160 kilometres and then widens to some 400 kilometres. Interior boundaries, running mainly in straight lines, were set by agreement with the neighboring countries of British Somaliland, Ethiopia and Kenya.

The Territory lies in the southeastern reaches of the Somali Plateau which slopes in a southwesterly direction to the Indian Ocean from the heights overlooking the Rift Valley in Ethiopia and the Gulf of Aden. Geologically, the Plateau as at present constituted was formed in the relatively recent Pleistocene period. It consists of successive rock strata the oldest and deepest layers of which are granites and gneisses, limestones and calcareous formations visible on the northern edge of the Plateau. In the southern part of the Territory the thick and wide outer layer is composed of alluvial and aeolic deposits containing fine gravels and light loams of claylike consistency.

Ancient crystalline rocks, including granites, gneisses, schists and quartz, form the archaic basement of Somaliland. These emerge in the southern part of the Territory near Iscia Baidoa and Bardera and they are also found under the sedimentary layer of the northern coast. The quartz seams often contain magnetite, some of which enters the alluvial deposits of the Juba River and gives rise to concentrations of iron and titanium sands at the mouth of the river. Rock salt deposits at Lugh are exploited by the local indigenous inhabitants. Various types of limestone are widespread and marbles and alabaster appear in some of the limestone formations of the north. Basalts have been observed in various areas. Sub-aerial sedimentary formations are very common in Somaliland, covering the eastern Midjurtein plateau and forming the sand and clay deposits around Obbia and the red sands of the southern region where the granite hills emerge. In addition, there are coral and dune concentrations especially along the coast which, together with the limestone deposits and surface granites, provide useable building stones.

Except for saline minerals and, to some extent, construction materials, the Territory's endowment in minerals of potential economic importance has not yet been established. Discontinuous deposits of bituminous lignite (lignite picea) have been found in the Durbo region of the Midjurtein, near Alula, but these appear to offer


2 The Ethiopian frontier has never been clearly defined. At present, a straight line connecting Fer Fer with the British Somaliland border near Garoe is considered the provisional administrative boundary with Ethiopia.
little prospect of economic exploitation. So far as is known at present, the Territory has no deposits of coal. Iron deposits occur in the Bur are north-east of Mogadishu, in the Upper Juba area and in the Midjurtein. The Bur deposits, consisting of magnetite, were estimated before the war at about 200,000 metric tons, but information as to grade was not reported. Lead is found in association with hematite at an altitude of about 900 metres in the mountains south-west of Candala in the Midjurtein. Occurrences consist of small pockets distributed over a considerable area which do not appear to merit economic exploitation.

As a result of work carried out after 1937, a deposit of cassiterite in seams of pegmatite and quartz was discovered at Magaian near Bender Cassim in a zone having an area of 3 sq. km. Research and preliminary developmental work were carried out after 1938. When the war interrupted operations, a small quantity of tin ore had been extracted for experimental purposes. Subsequently, equipment was removed to other areas.

Somaliland may be divided into three sharply differentiated physiographic zones roughly paralleling the Indian Ocean coastline. The innermost zone is a plateau which falls steeply in the north near the Gulf of Aden and slopes off gradually toward the south as it approaches the Indian Ocean. The plateau reaches the coast between Cap Guardafui and Obbia. The northernmost part, which extends from the Gulf of Aden to the Nogal depression, is called the Midjurtein, a rugged area containing isolated mountain reliefs of considerable altitude -- e.g., Mount Habeno, 1,900 metres, and Hor Bogor, 2,190 metres.

The plateau zone is marked by widespread areas of bare rock, a dry climate and scarce surface water; hence, vegetation is sparse, mainly xerophytic, with scrub and grasslands predominating. In the Midjurtein, trees yielding incense, myrrh and gum arabic grow, the products of which are collected and traded by the pastoral inhabitants to augment their rather meagre subsistence. Along the southern margin of the plateau, at Iscia Baidoa, tracts of land covered with fine detrital materials are cultivated and provide good pasture for cattle. The greater part of the plateau zone, however, is suited only to pasture camels and goats.

The second physiographic zone consists of a vast level plain which, beginning south of Obbia, widens considerably in a southwesterly direction. This plain's surface is composed almost entirely of alluvial deposits from the Webbe Shebeli and Juba Rivers. Deep and compact black and red soils, rich in loam and humus, are present here and make the zone most favorable for cultivation and grazing. A typical gallery forest fringes the rivers, while elsewhere there is a steep-type vegetation yielding excellent annual growths of pasture grass.

The coastal or third physiographic zone extends from the mouth of the Juba River north to about Obbia. Anicert and sand hills run the length of this zone, often covered by dunes in part still mobile and others more or less consolidated. The zone varies in width from about 4 kilometres at the northernmost point to some 100 kilometres in the south, averaging, as at Afgoi, about 25 kilometres. It comprises two distinct belts: an outer narrow belt consisting of bare, mobile sand hills useless for agriculture; and a wide inner one containing old, consolidated dunes where are found dense acacia growths, the prickly mimosa brush, some dwarf trees and baobabs. Abundant grasses, which provide good livestock forage, spring up during the rainy season in the areas free of trees and shrubs. Indigenous inhabitants of the coastal centres maintain their livestock herds among the dunes.
all year round, and during the rainy season when malaria and tsetse fly threaten the alluvial plain dwellers and their livestock, they shift their herds to the dunes. The sands of this zone readily absorb rain water, which is tapped by wells and used in truck farming and some cultivation of cotton.

The coastline is generally straight both on the Indian Ocean and on the Gulf of Aden. The Territory lacks good ports, but a number of useful anchorages exist along the long coasts. Two inlets in the north, at Alula and Bender Cassim, provide natural anchorages, and Cape Hafun, which is situated about 100 kilometres south-west of Cape Guardafui and protrudes some 30 kilometres into the sea, forms small shallow bays on the northern and southern sides.

South of the Midjurtein, which lies between Cape Guardafui and the Nogal River, is Benadir. The Benadir has a low sandy coast paralleled by a chain of coral reefs a few hundred metres out from the shoreline. These reefs emerge from the sea at certain points to form small islands some of which are connected to the shore by sand strips. The Benadir's usable anchorages are found at Mogadishu, Brava and Itala.

Below the mouth of the Juba River the coast presents physical features resembling Benadir. Here, however, there are a greater number of reefs, larger in size and forming a chain of cliffs and small islands; several of the latter, known as the Bajiumi Islands, are inhabited. A channel some few kilometres in width separates the cliffs and islands from the mainland, but it disappears between Bur Gao and Ras Chiambone. Convenient anchorages are available along this stripe of shoreline, including Kismayu, which is located about 20 kilometres south-west of the mouth of the Juba River and which has been described as the best anchorage on the entire coast of the Territory.

2. Water Resources

The Webbe Shebeli and Juba Rivers are the only permanent sources of water in Somaliland. The Webbe Shebeli River originates in the highlands of Ethiopia and flows for about 3,500 kilometres before petering out in the Balli swamp not far north of the Juba River. A fan-like series of tributaries pour into the Webbe Shebeli on the Ethiopian course of the river, but these are lacking in Somaliland and the river becomes progressively impoverished, slow and meagre in water content as it nears its end. The relative flatness of the river's grading and frequent overflowing of its waters contribute to this impoverishment. The river flows in a southeasterly direction until Bdlad where it then turns to the southwest for some 300 kilometres, paralleling the Indian Ocean coastline at about 20-25 kilometres inland, and disappears in the Balli swamp. The enormous amount of alluvia shored up by the Juba River prevents the Webbe Shebeli from flowing into it.

Records indicate that the Webbe Shebeli's volume in periods of maximum floods is about 180 cubic metres per second at Villaggio Duca Degli Abruzzi and 100 at Genale, whereas normal volume averages 40 cubic metres per second. The highest floods on the Webbe Shebeli occur in the "Gu" season, during March-May, and smaller floods usually take place between August and the end of November. The river frequently dries up during the months of December, January and February, the "Jilal." Its saline content varies enormously with the season of the year and the type of flood; analyses have
shown an average salt content (sodium chloride) of slightly over 4 grams per 100 litres over a period of 12 months.1/

The Juba River also originates in the Ethiopian highlands where it is formed by three main branches which unite at Dolo near the Somaliland border. It flows due south through the Territory for some 1,650 kilometres. The river is normally perennial with an average capacity of about 200 cubic metres per second, though this may rise to 1,800 cubic metres in periods of maximum height and fall to less than 30 cubic metres per second in low periods. The highest floods on the Juba occur during the "Der" season, in October and November, and minor floods in the "Gu" season. The river is navigable as far upstream as Bardera. Its water, unlike that of the Webbe Shebeli, has only a slight saline content and is therefore superior for irrigation.

In addition to the Webbe Shebeli and Juba Rivers there are a number of other sources in Somaliland which provide temporary but vital supplies of water to the population and their livestock. Temporary streams or torrents, called bohols, fed by springs and run-offs from areas of barren rocks, appear in the region between the rivers. These streams are sometimes a few hundred kilometres long, but in most cases they dry up before reaching the rivers or end in swamps. They are important, however, even when inactive, since ponds form in their beds for short or long periods which serve to supply water for animals.

Although there are no lakes in the Territory, overflows from the two rivers and from bohols form ponds and depressed areas, called desheks, near the lower courses of the rivers which supply water to the inhabitants. The desheks, particularly, serve as valued plots for agriculture by indigenous groups. Along the coast of the Gulf of Aden there are a number of lagoons useful to the population.

The major bohols of northern Somaliland, the Giael and the Daror, are found on the Indian Ocean side of the Midjurtein. The Giael is about 160 kilometres long. The active tract of the Daror begins at Scusciuban and forms a wide, flat depression from west to east which largely lacks tree vegetation. Further south there is the Nogal into which many small tributaries discharge their waters. Nevertheless, the Nogal's bed dries up during the dry season, and it is only near Eil, close to the ocean coast, where it forms a permanent spring.

Several minor streams, or bohols, are important in the dry, barren northern part of the Territory, though they may be active for only a few days in the year. The Dagan, which flows into the Gulf of Aden, is mainly underground and emerges as springs in various places. Other water courses on this coast include the Uadi Balade and the Toguen. Most of these streams form coastal lagoons which sometimes provide navigable channels to the Gulf.

The water system between the Nogal and the Webbe Shebeli River is only slightly known. The evidence indicates that no river or bohol of significance exists in this area.

Numerous sources of underground water are available in the Territory. Although these do not seem to concentrate in great volume, they are of the utmost importance to the indigenous inhabitants, both pastoral and agricultural. In the north the alluvia of bohols provide the best water resources. These are tapped when needed by hand-dug wells and make possible much of the economic activity which exists in the Midjurtein. In the area around Obbia similar water resources are present, but the quality of the water is said to be poor.

In southern Somaliland water conditions vary with the character of the surrounding terrain. High saline content characterizes the underground water around Lugh and in many other places. Analyses of water from the SAIS wells at Villabruzzi, for example, disclosed a saline content averaging about 108 grams per 100 litres, with a range of 4 to over 1,000 grams per 100 litres. A double chain of small ponds and wells, the Galgial Wells, stretch along the middle Webbe Shebel, region from El Ido to Ologof, a distance of more than 100 kilometres. The best underground water in the south, however, derives from bohols located near eroded hills (burs) and other outcrops which readily absorb and store water. Indigenous inhabitants of the area reach this water with their wells. An important group of permanent wells which furnish fresh water are located at El Uach, near the border of Kenya. In addition, fairly good water deposits exist in the coastal dunes.

3. Climate

Periodic winds, which blow for eight or nine months of the year, are dominating factors in the climate of Somaliland. The southwest monsoon, or monsoon proper, blows from the south in the summer months of June to September, forming a strong coastal current which makes landings difficult on the Benadir coast and keeps the small indigenous craft from the sea entirely. This is the so-called closed coast period. In the winter months, December-March, the northeast monsoon, which is essentially a trade wind and milder than the monsoon proper, blows from the north or northwest and permits normal navigation and landings along the coast except to the indigenous sail boats. These sail boats can navigate in the autumn, October-November, and in the spring, April-May, when the sea is calm and light, variable winds mark the transitions between the seasons. Indigenous people term the calm seasons Tangambili, meaning "two sails," because navigation is then possible in both directions between Somaliland and the Arabian peninsula with which trade is carried on.

The winds exert an important influence on temperature and rainfall in the Territory. On the whole the climate is rather uniformly dry and semi-arid, but not torrid, with relatively low humidity especially in the north and quite high humidity along the coast and the rivers. Table 1 gives data on maximum and minimum temperatures recorded over a period of several years for various locations in the southern half of Somaliland. Information on the northern section is not available.

In the interior diurnal climatic variations become sharper as the distance from the sea increases and monsoon influences lessen. At Lugh, for example, which has an average temperature of about 32 degrees centigrade in the hottest month and of 28.3 degrees in the coolest month, the absolute daily
maximum may be as high as 45 degrees centigrade and the minimum as low as 10 to 11 degrees.

Rain falls in two seasons of the year: during the spring months; March-May, termed "Gu"; and during the autumn, September-November, termed "Der." The summer season, June-August, called "Hagai," is relatively cool with rainfall very scarce and river floods rather moderate, while the winter season, December-February, called "Jilal", is warm and dry. In the northern part of the Territory the two rainy seasons tend to merge into one; here summer rains are generally expected from May to August or September, but considerable variations occur from year to year and sometimes from month to month.

The climate of Somaliland may be summarized briefly as follows. The low parts of the Territory present somewhat uniform climatic conditions characterized by a monsoon climate with two equinoctial rainy seasons and an annual mean precipitation of more than 400 millimetres, mean temperatures of 25 to 28 degrees centigrade and a mean annual range of about 5 degrees. Northeast along the coast the climate becomes dry and warmer. In the southwest the climate approaches the equatorial type, with narrow temperature ranges, higher humidity and a rainy season generally limited to the spring months. This equatorial climatic type is especially marked in Jubaland. The fact that rainfall is irregular and sometimes fails completely during a season bears most significantly on the economic life of the inhabitants of Somaliland.

4. Population

The population of Somaliland was estimated at about 1,246,000 as of 31 December 1950, comprising 1,218,000 indigenous inhabitants, 23,000 Arabs, 4,235 Italians, 1,000 Indians and Pakistanis and a few other non-indigenous persons. Thus, approximately 98 per cent of the Territory's population is indigenous. Various calculations of the population have been made since 1913, but except for the rather exhaustive census taken in 1931, these calculations cannot be considered reliable because, among other things, they related to different territorial areas. The 1931 census provided for the first time a fairly complete account of the population and became the basis for all subsequent demographic studies.

In 1931 there were 1,021,572 individuals in Somaliland, some 225,000 less than in 1950. Hence, the annual rate of increase in this period amounted to slightly more than 1 per cent. The 1931 population included 1,631 Italians and 37 other individuals designated as foreigners, while Arabs and Indians were classified together with the indigenous group. After 1931 the Italian sector increased rapidly to reach a peak of some 8,000 before the British occupation in 1941. This sector fell to about 3,000 by 1947, mainly because of repatriation to Italy, and than began to increase again to reach the present total.

Average population density in 1931 was 2.0 per square kilometre, ranging from 0.8 in the Midjurtein and Mudugh administrative regions to 3.7 in the Lower Webbe Shebeli region. In 1950 average density was 2.4 persons per square kilometre. The data available do not permit comparison between 1931 and 1950 in respect of population distribution and densities. Table 2 presents a regional breakdown of population according to administrative regions.

39
Table 1. Temperature and Rainfall  
(centigrade - millimetres)

<table>
<thead>
<tr>
<th>Place</th>
<th>High</th>
<th>Month</th>
<th>Low</th>
<th>Month</th>
<th>Annual range</th>
<th>Annual Rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mogadishu</td>
<td>29.4</td>
<td>April</td>
<td>25.8</td>
<td>July-August</td>
<td>3.6</td>
<td>497.7</td>
</tr>
<tr>
<td>Brava</td>
<td>27.8</td>
<td>April</td>
<td>25.7</td>
<td>July</td>
<td>2.1</td>
<td>611.0</td>
</tr>
<tr>
<td>Giumbo</td>
<td>29.3</td>
<td>April</td>
<td>27.3</td>
<td>July</td>
<td>2.0</td>
<td>362.4</td>
</tr>
<tr>
<td>Afgoi</td>
<td>28.6</td>
<td>March</td>
<td>25.1</td>
<td>July</td>
<td>3.5</td>
<td>533.9</td>
</tr>
<tr>
<td>Gelib</td>
<td>26.7</td>
<td>February</td>
<td>23.5</td>
<td>July</td>
<td>3.2</td>
<td>788.1</td>
</tr>
<tr>
<td>Balad</td>
<td>29.1</td>
<td>March</td>
<td>26.9</td>
<td>July</td>
<td>2.2</td>
<td>559.8</td>
</tr>
<tr>
<td>Bardera</td>
<td>31.2</td>
<td>February</td>
<td>25.1</td>
<td>July</td>
<td>6.1</td>
<td>487.4</td>
</tr>
<tr>
<td>Villaggic</td>
<td>29.1</td>
<td>April</td>
<td>25.1</td>
<td>July</td>
<td>4.0</td>
<td>672.1</td>
</tr>
<tr>
<td>Burttecaba</td>
<td>29.5</td>
<td>April</td>
<td>27.1</td>
<td>July</td>
<td>2.4</td>
<td>559.1</td>
</tr>
<tr>
<td>Mahaddei</td>
<td>29.0</td>
<td>March</td>
<td>24.7</td>
<td>July</td>
<td>4.3</td>
<td>477.2</td>
</tr>
<tr>
<td>Isira Baidoa</td>
<td>28.7</td>
<td>February</td>
<td>24.1</td>
<td>July</td>
<td>4.6</td>
<td>687.9</td>
</tr>
<tr>
<td>Bulo Burti</td>
<td>30.4</td>
<td>March</td>
<td>26.1</td>
<td>July</td>
<td>4.3</td>
<td>358.1</td>
</tr>
<tr>
<td>Oddur</td>
<td>29.4</td>
<td>March</td>
<td>26.1</td>
<td>August</td>
<td>3.3</td>
<td>427.2</td>
</tr>
<tr>
<td>Lugh</td>
<td>32.0</td>
<td>February</td>
<td>28.3</td>
<td>July-August</td>
<td>3.7</td>
<td>440.2</td>
</tr>
</tbody>
</table>

Table 2. Distribution of Population as of 31 December 1951 (Estimate)  

<table>
<thead>
<tr>
<th>Administrative Region</th>
<th>Indigenous Population</th>
<th>Italian Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mijurtein</td>
<td>86,000</td>
<td>57</td>
</tr>
<tr>
<td>Bender Cassim b/</td>
<td>14,000</td>
<td>32</td>
</tr>
<tr>
<td>Alula</td>
<td>8,000</td>
<td>12</td>
</tr>
<tr>
<td>Candala</td>
<td>6,000</td>
<td>3</td>
</tr>
<tr>
<td>El</td>
<td>14,000</td>
<td>3</td>
</tr>
<tr>
<td>Garo</td>
<td>26,000</td>
<td>4</td>
</tr>
<tr>
<td>Scusciuban</td>
<td>18,000</td>
<td>3</td>
</tr>
<tr>
<td>Mudugh</td>
<td>142,750</td>
<td>21</td>
</tr>
<tr>
<td>Calcaio b/</td>
<td>32,000</td>
<td>14</td>
</tr>
<tr>
<td>Dusa Mareb</td>
<td>12,750</td>
<td>1</td>
</tr>
<tr>
<td>El Bur</td>
<td>63,000</td>
<td>4</td>
</tr>
<tr>
<td>Obbia</td>
<td>35,000</td>
<td>2</td>
</tr>
<tr>
<td>Webbe Shebeli</td>
<td>292,090</td>
<td>193</td>
</tr>
<tr>
<td>Belet Uen b/</td>
<td>64,000</td>
<td>48</td>
</tr>
<tr>
<td>Bulo Burti</td>
<td>110,000</td>
<td>5</td>
</tr>
<tr>
<td>Itala</td>
<td>36,000</td>
<td>1</td>
</tr>
<tr>
<td>Villaggio Duca degli Abruzzi</td>
<td>82,090</td>
<td>139</td>
</tr>
<tr>
<td>Benadir</td>
<td>257,560</td>
<td>4,123</td>
</tr>
<tr>
<td>Mogadishu b/</td>
<td>68,560</td>
<td>3,606</td>
</tr>
<tr>
<td>Afgoi</td>
<td>57,000</td>
<td>50</td>
</tr>
<tr>
<td>Balad</td>
<td>27,000</td>
<td>1</td>
</tr>
<tr>
<td>Brava</td>
<td>41,000</td>
<td>35</td>
</tr>
<tr>
<td>Merca</td>
<td>64,000</td>
<td>431</td>
</tr>
<tr>
<td>Upper Juba</td>
<td>357,564</td>
<td>113</td>
</tr>
<tr>
<td>Bardoa b/</td>
<td>125,000</td>
<td>78</td>
</tr>
<tr>
<td>Bardera</td>
<td>58,000</td>
<td>6</td>
</tr>
<tr>
<td>Bur Acaba</td>
<td>82,564</td>
<td>9</td>
</tr>
<tr>
<td>Lugh Ferrandi</td>
<td>33,000</td>
<td>8</td>
</tr>
<tr>
<td>Oddur</td>
<td>59,000</td>
<td>12</td>
</tr>
<tr>
<td>Lower Juba</td>
<td>106,235</td>
<td>237</td>
</tr>
<tr>
<td>Kismayu b/</td>
<td>28,000</td>
<td>149</td>
</tr>
<tr>
<td>Afmadu</td>
<td>26,000</td>
<td>1</td>
</tr>
<tr>
<td>Margherita</td>
<td>52,235</td>
<td>87</td>
</tr>
<tr>
<td>Grand Total</td>
<td>1,242,199</td>
<td>4,744</td>
</tr>
</tbody>
</table>

a/ Indigenous population includes Arabs, Indians and Pakistanis; Italian population is resident.

b/ Administrative centre.
The indigenous population of Somaliland consists in the overwhelming majority of Somalis who are Sunni Moslems and speak a dialect of the Somali language, which belongs to the Kushitic language family. The remainder of the indigenous population is composed of Bantu-speaking Negrois groups devoted almost entirely to agriculture, handicrafts and hunting and fishing, and who largely inhabit the southern part of the Territory.

The Somali divide into four principal tribal groups, namely the Darot, the Hawiya, the Dirr and the Sab, the last being a generic term which includes the Rahanuin and Dighil peoples. Most of these tribes spill over into Ethiopia and British Somaliland. The Darot, Hawiya and Dirr tribes number about 570,000 individuals, and the Sab groups include over 250,000 members. The former pursue principally a nomadic or semi-nomadic pastoral life in which their subsistence derives from the keeping of camels, sheep and goats whose milk, meat and hides and skins provide food and products for exchange or sale. The Sab, on the other hand, generally combine pastoralism with agriculture. In 1931, these principal tribes accounted for over 87 per cent of the total population of Somaliland.

The Darot tribe occupies the northernmost and southernmost areas of the Territory and large numbers of this people are found in the Ogaden region of Ethiopia. In the northern mountains some Darots augment their livelihood by the collection of incense, myrrh and gums, which they trade to Arab merchants for grain, tea, sugar, textiles and other necessities. The Hawiya tribe concentrates primarily in the area between the Webbe Shebeli River and a point north of Obbia, stretching almost across the width of the Territory. Dirr groups form enclaves in various parts of southern Somaliland. These three pastoral tribes view themselves as superior to all others by virtue of their "noble" occupation, the keeping of livestock, and their "noble" descent from Mohammed's tribe, a group of which is believed to have entered Somaliland in the twelfth century.

The Rahanuin and Dighil peoples inhabit the fertile region between the Webbe Shebeli and Juba Rivers. They have increasingly taken up agriculture in conjunction with the keeping of livestock and to some extent intermixed with the Negroid groups living in the area. As a consequence, they are viewed as inferiors by the pure pastoralists.

Somali tribes further subdivide into sub-tribes and rer, the latter being the most important unit in their social structure. A rer generally comprises a number of families which, as a group, fulfills obligations arising from blood-feuds and other conflicts. Members of a rer may also consider themselves united by kinship ties flowing from descendancy from a common ancestor. Rers appear to vary in size from a few individuals to groups including hundreds of persons. The rer forming a tribe are headed by an elected or hereditary chief whose authority is more nominal than real, although certain limited functions adhere to this office. Centralized authority and strong bonds uniting Somali groups larger than the rer are, however, conspicuously absent among this population.

The Bantu-speaking Negroid groups mainly live along the lower courses of the Webbe Shebeli and Juba Rivers. Many of them were formerly slaves of the Somali or descendants of slaves and now, although free, some still
cultivate the fields of Somali farmers. They provide a large portion of the agricultural labour force of Somaliland. These groups include the Giddu and Adone of the Webbe Shebeli region, and the Wagosha, Gobahin and Ribi of the Juba region. The Bajumi people inhabit the area around Kismayu, especially the small Bajumi Islands off the mouth of the Juba River, where they are mainly engaged in fishing and farming. Fragmentary groups, such as the hunting Waboni, also live in the Lower Juba region.

People known as Tunni are settled in the coastal area around Brava and Kismayu. According to local beliefs the Tunni originated in Harar, Ethiopia, and settled in Somaliland some centuries ago. They are chiefly engaged in pastoral activities, though some of them do trading and serve as artisans.

Scattered throughout the population are low-caste people carrying the names Midjan and Tumal. These perform specialized tasks, such as ironwork and tanning, for the Somali groups who disdain this kind of work. Another group of special social status is the Yebir who function mainly in social and religious spheres connected with marriages, burials, etc.

The social stratification of the Somali population, which is primarily connected with occupation, has often been cited as perhaps the greatest obstacle to changes that could improve the living standards in the Territory. Attitudes toward occupations reflect this stratification. The pastoralist rejects agriculture and artisanship as undignified, and most Somali groups consider farm labour a menial task fit only for individuals occupying the lower social strata. One consequence of these attitudes has been the difficulty experienced in creating a stable labour force necessary for the economic development of the Territory. It should be noted, however, that neither the social structure nor the attitudes stemming from and bolstering this structure have proved so rigid as to prevent entirely the transformation of significant numbers of Somali from a "superior" to an "inferior" occupation or way of life. History offers numerous examples of this process.

Somali migrations always appear to have been southwestward, from the barren northern regions to the more fertile southern and western parts of the Territory. Thus, the Sab peoples, who were formerly pastoral nomads, gradually pushed into the areas they now occupy and took up farming, which they combine with the keeping of livestock. Many groups gave up camel-keeping for cattle-raising in their new habitats, despite the fact that the camel was considered the "noble" animal, most valued by the Somali. In the mountainous Midjurtein area, nomadic pastoralists engage in trade with Arab merchants some of whom cross over from nearby Arabia. Finally, even the most haughty of the nomads cultivate the soil wherever possible in the vast area they inhabit, planting some seeds of durra, beans and melons in propitious places in the face of an uncertain harvest.

In addition to these internal changes that have taken place in the course of time, the entrance and settlement of Europeans in Somaliland have had a powerful impact on segments of the population. In the first place, urban centres arose populated by individuals originating in all parts of the Territory, from all tribal groups and accustomed to different occupations and different social and cultural patterns. Many of these townspeople have all but severed ties with their tribes and changed over from a tribal way of life to
one characteristic of towns or cities. The diverse elements of the population are slowly developing cohesion through social, economic and political contacts in the urban centres and thereby forming a society quite distinct from the tribal societies.

New wants are being created among these urban people through the daily spectacle of European commodities being utilized and valued by the non-indigenous sector of the population. Food habits and housing quarters are tending to change, as well as tastes in clothing, recreation and the like. At the same time, these indigenous inhabitants of the urban centres are learning to work in commerce and industry and some are finding their place in the administrative organs of the Government. The greater availability of schools, particularly those going beyond the elementary level and the recently introduced technical institutions, is further paving the way for rapid change in their attitudes and life patterns.

The internal changes that have occurred among the Somali and the response to European penetration of the Territory giving rise to the growth of towns and cities and the consequences thereof are of fundamental importance from the economic point of view. Also important are the cooperative associations which have long existed among Somali groups, especially those engaged in agriculture and mixed farming. Some of these associations, like the Jamya, have a religious basis, while others, like the Sodden, are essentially secular and largely subservce economic purposes.

The Jamya was founded by a Moslem holy man early in the nineteenth century and subsequently spread over a wide area around Bardera. The membership cuts across numerous tribes and has formed itself into a sort of theocratic-economic organization headed by a sheik. Disciples of the Jamya devote themselves to agriculture on land nominally owned by the sheik. The cultivator has exclusive usufructuary rights to the plots allotted to him by the sheik which he may transfer to other members of the association. Upon his death the land goes to his heirs according to Koranic law. Members work their land individually except for heavy tasks such as clearing, and sowing is done cooperatively under the sheik's orders. A tenth of the harvest goes to the sheik, also following Koranic law, which is held in reserve to feed the poor, to supply seed for the next season and to help the members when crops fail.

An early report stated that Jamya communities or villages were fairly widespread throughout the agricultural areas of Somaliland. The strongest ones were located at Bardera on the Juba River and Mesra on the Webbe Shebeli River, and others existed among the riverine villages of the Webbe Shebeli inhabited by former slaves of the Somali. The same source stated that conflicts between Jamya sheiks and tribal chiefs were frequent over questions of land occupation and the allegiance of the membership. No recent information is available in respect of the number of Jamyas in existence, the extent of their membership, their strength or influence among the people and how they are operating today.

1/ M. Colucci, Principi di Deritto Consuetudinario della Somalia Italiana Meridonale (Florence, 1924), pp. 70 ff.
The Soddon represents an association devoted exclusively to mutual aid in farming. It is generally organized along village lines, but occasionally includes individuals from other villages. The members are subject to call by the village chiefs for cooperative agricultural services, especially involving heavy work requiring a team. The owner of the field using members of the Soddon provides food for the workers or gives financial compensation to the Soddon if he himself does not belong to the association. Village Soddens usually specify certain days of the week when cooperative work must be done. This type of association is particularly prevalent in the Webbe Shebeli region where agriculture is the mainstay of the population.

Other cooperative associations similar to the Soddon include the Hirin, among the Wagoscia of the Lower Juba, the Daa, among the Begheda of the Lower Webbe Shebeli, and the Gohob, among the Rahanuin people, which is an association of young persons in a rer or village organized to perform agricultural work.

The non-indigenous population, consisting largely of Italians, Arabs, Indians and Pakistanis, is concentrated principally in the cities of Somaliland. These minorities are engaged in commerce and industry, and the Italians in addition practise commercial agriculture and fill the higher posts of the local administration.

5. Historical Note

The Trust Territory of Somaliland was anciently known as the "land of aromatics." Beginning about the middle of the eighth century Arabs are believed to have initiated migrations to the Territory and, early in the tenth century, they founded settlements along the coast where Mogadishu and Brava are now located. Salim el Sanimi occupied the main coastal centres in the eighteenth century on behalf of the Sultan of Oman. Although the occupation was short-lived, it sufficed to give the Sultan a token right to the land. When Italian interests focused on Somaliland late in the nineteenth century, the Sultan of Zanzibar, as heir to the Sultan of Oman, was exercising nominal authority over the territory.

An expedition organized by the Italian Government, headed by Captain Antonio Cecchi, visited the Lower Juba region in 1885 and concluded a commercial treaty with the Sultan. In 1889, the Italians established protectorates over territories ruled by the Sultans of Obbia and the Midjurtein. Two years later the Italian and British Governments signed a pact delimiting their respective spheres of influence. Italian control extended from the Juba River northward to the sixth parallel. In 1892, the Sultan of Zanzibar transferred to Italy his jurisdiction over Brava, Merca, Mogadishu and Uarsceik in return for the payment of an annual fee.

Administration of the area under Italian influence, known as Benadir, was granted successively to three charter companies by the Italian Government. All of them failed and, in 1905, Italy took over the direct control of the territory and set up a political, administrative and fiscal organization. In 1908, all of the regions under Italian control were united and a single government was established to administer the territory through resident officials located in each of the eight administrative regions into which the territory was divided. During World War I frequent rebellions on the part of
the indigenous population practically limited Italian control to a few major centres.

Great Britain ceded Jubaland to Italy in 1924, thus extending the coastline southward by some 200 kilometres and giving the Italians complete control over the fertile Juba region. The total area transferred amounted to about 90,000 square kilometres. In 1925-1927, the Italians waged a military campaign in northern Somaliland which resulted in the bringing of the protectorates of Obbia and the Midjurtein directly under Italian sovereignty.

Early in World War II, British forces invaded and occupied Somaliland. British military administration of the country continued until 1949, when the civil authorities took over. Under the terms of the Peace Treaty of 1947, Italy renounced its rights and title to Somaliland. Subsequently, The General Assembly of the United Nations considered the question of the disposal of the former Italian Colonies and, in November 1949, adopted a resolution recommending that Italian Somaliland be placed under the International Trusteeship system for ten years with Italy as the administering power. After the ten-year period, Somaliland would become an independent state. An Advisory Council consisting of representatives of Colombia, Egypt and the Philippines was created to assist and advise the Administering Authority. A Trusteeship Agreement was later concluded with Italy and, on 1 April 1950, Great Britain transferred the administration of Somaliland to the Italians.

B. AGRICULTURE

1. General:

The agricultural sector of the Somaliland economy, in which perhaps one-half the indigenous population participates, provides subsistence crops to feed the inhabitants and commercial crops which enter into export trade. Indigenous farmers in large part cultivate the basic food crops, utilizing simple tools and techniques and relying principally on rainfall rather than artificial irrigation to water their fields. A small portion of this cultivation is done by means of elementary irrigation works in areas where this is feasible. These farmers also grow crops which are exported and their surplus food crops are sold in the local markets or exchanged with the pastoralists for livestock products.

Commercial agriculture is a major activity of the non-indigenous population, particularly the Italians. Under the pre-war Italian Administration considerable capital was expended in the construction of large-scale irrigation installations, which made possible the development of mechanized plantation agriculture devoted almost exclusively to the growing of the export crops. In addition, non-indigenous agricultural enterprisers entered into various forms of contractual arrangements with indigenous farmers with a view to increasing the production of commercial crops.

Precise data on the extent of land under cultivation are not available. It has been officially estimated that about 10 per cent of the total land area of Somaliland is cultivable. Estimates for various years indicate that some 250,000 hectares are cultivated on the average, which amounts to between 5 and
10 per cent of the cultivable land. Approximately 90 per cent of the land in agriculture is indigenous, as shown in Table 3.

Table 3. Acreage Cultivated in Selected Years
(In hectares)

<table>
<thead>
<tr>
<th>Year</th>
<th>Indigenous</th>
<th>Italian Concessions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(a) Ceded</td>
</tr>
<tr>
<td>1935</td>
<td>..</td>
<td>61,803</td>
</tr>
<tr>
<td>1938</td>
<td>214,955</td>
<td>67,971</td>
</tr>
<tr>
<td>1939</td>
<td>177,170</td>
<td>68,267</td>
</tr>
<tr>
<td>1944</td>
<td>200,000</td>
<td>72,842</td>
</tr>
<tr>
<td>1946</td>
<td>225,000</td>
<td>72,842</td>
</tr>
<tr>
<td>1947</td>
<td>190,000</td>
<td>72,842</td>
</tr>
<tr>
<td>1950</td>
<td>..</td>
<td>72,842</td>
</tr>
<tr>
<td>1951</td>
<td>..</td>
<td>72,842</td>
</tr>
</tbody>
</table>

a/ Compiled various official and unofficial sources.

Italian agriculture controls 72,842 hectares of the total alienated land (74,347 hectares), but only between 16 and 37 per cent of this land has been cultivated. According to one source, over 31,500 hectares were in cultivation on the Italian concessions in 1939/1940, which would represent a peak year for the entire period of Italian control in Somaliland.1/

Indigenous land is generally held under one or another form of communal tenure in which the individual's rights derive from his membership in a tribe or sub-tribe or kindred group. Customary law regulates and limits these rights, usually proscribing the transfer of land outside the traditional community. Alienated land, all of which was granted prior to March 1941, is held under various forms of concessions, including permanent concessions with annual rentals and an option to purchase after certain conditions have been fulfilled, temporary concessions with annual rentals and concessions with immediate transfer of title upon payment of a specified price and the fulfillment of certain conditions. The Societa Agricola Italo-Somala purchased its

1/ See F. Bigi, Agricultura, Vita della Somalia, in "Africa" (Rome), Anno V, No. 8, August 1950, p. 171.
The major areas of indigenous agriculture include the valleys of the Juba and Webbe Shebelli Rivers, the region between these rivers and the coastal belt along the Indian Ocean south of Obbia. Estimates of the number of individuals practising settled agriculture vary considerably. However, a fairly reasonable estimate would place this number at something less than 100,000, consisting in the large majority of Bantu-speaking and other Negroid groups many of whom were formerly slaves or the descendants of slaves of the Somalis. Most of these agriculturists inhabit the fertile river valleys where, owing to tsetse fly, cattle cannot be raised. In the relatively extensive area between the two rivers are found peoples known as the Sab, a term which includes the Rahamin and Dighil tribes, who are said to be of mixed origin. The Sab number about a quarter of a million and occupy themselves in mixed farming in which the pastoral sector holds considerable importance. Other small groups of differing tribal affiliations form agricultural enclaves in the coastal belt outside the large cities and towns.

The Midjertein, northernmost part of Somaliland, does not contain soil suitable for any large-scale development of agriculture. Cultivation is therefore limited to a small number of irrigated settlements, some date palm plantations in the coastal sands and sporadic planting of small crops in depressions or the deltas of tugs. Pastoral nomads also collect and market incense and myrrh to augment their subsistence. In the Mudugh area adjoining the Ogaden border of Ethiopia, agriculture is at a minimum, consisting mainly of occasional plantings of a few crops in depressions and tugs.

The non-indigenous sector of agriculture is almost entirely confined to Italian enterprises located along the Webbe Shebelli and Juba Rivers. Here irrigated, mechanized cultivation of commercial crops along modern lines was developed. Large-scale agriculture was first established by the Societa Agricola Italo-Somala (S.A.I.S.), a company founded in 1920 by the Duke of Abruzzi with initial capital of 24 million lire which was subsequently increased to 35 million. S.A.I.S. purchased some 25,000 hectares of land from the indigenous inhabitants of the Scidle region of the Middle Shebelli, setting aside about 12,000 hectares for agriculture. The remainder was used as a livestock farm. A complete irrigation system was constructed and later the colonial government built a railroad and a motor highway connecting the plantation at Villaggio Duca degli Abruzzi with Mogadishu.

The second major Italian agricultural enterprise was developed at Genale on the lower course of the Webbe Shebelli River in 1924, when the government granted concessions of land ranging from 60 to over 600 hectares each to some hundred Italian colonists. The government built an irrigation system and roads to serve the concessionnaires.

Other centres of Italian agriculture were established at Afgoi and Hava on the Lower Shebelli River, but these never achieved major importance in the

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1/ For details on the subject of land tenure in Somaliland, see United Nations, Committee on the Rural Economic Development of the Trust Territories, T/AC.36/L.14, 24 May 1951; T/AC.36/L.25, 9 July 1951; T/AC.36/L.42, 6 March 1952.
development of the Territory.

Subsequent to the addition of Jubaland to Somaliland, Italian settlers obtained concessions of land along the Juba River amounting to nearly 13,500 hectares, divided into 32 enterprises. The Societa Romana di Colonizzazione controlled 5,000 hectares of this development and established store houses, mechanical workshops and a cotton ginnery to serve the Juba concessionaires.

A feature of Italian agriculture in Genale, Afgoi and Havai during pre-war years was the cooperative organization of the concessionaires into syndicates. These syndicates represented complete management, production, credit, sales and purchase cooperatives regulated by law and compulsory for all members. Individual concessionaires were expected to dispose of their produce exclusively through the cooperatives, which not only extended credit facilities and technical assistance to the planters but also provided storage space for the harvested crops. The syndicates further dealt with manpower procurement problems. The rapid development of banana cultivation and trade stimulated the formation of the syndicates. They handled marketing and shipping requirements and set production goals for each member in order to utilize existing transportation facilities at lowest costs.

Government aid to the Italian sector of agriculture was many-sided and extensive. In addition to constructing irrigation systems and transport facilities which enabled the Italian planters to grow and market their export crops, the colonial government established experimental stations devoted to exploring agricultural possibilities in the Territory and to advise concessionaires on techniques, crop selection, etc. Direct subsidies were granted to these planters as well as contributions (of 20 per cent) on the price of agricultural machinery and on irrigation expenses, bonuses for new crops, payments of interest on agricultural loans and other financial aids and benefits. In the period 1931-1936, for example, the colonial government expended over 8.6 million lire in direct and indirect grants to the Italian concessionaires.1/

The concessionaires experienced considerable difficulty in obtaining an adequate and stable labour force for their agricultural enterprises. This problem continues to exist in the Territory. It has been estimated that the total number of indigenous individuals working for wages in agriculture, industry and commerce, domestic service and in the administration does not exceed 50,000.2/ Those engaged in agricultural wage labour are not only few, but many of them merely augment their income from the cultivation of their own fields by temporary hire to the concessionaires. Hence, it is somewhat misleading to refer to this group as a labour force. Actually, the properly-termed labour force of Somaliland represents only a tiny fraction of the

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1/ For details on these grants see G. Battista, Relazione sui contributi a favore dei concessionari della Somalia nell'ultimo quinquennio (1931-1936)., in Atti del 3° Congresso di Studi Colonial (Florence, 1937), Vol. VIII, pp.593-598.

population, and that portion of it available to agriculture is even smaller.

There are several reasons for this situation. In the first place, the proportion of the population engaged exclusively in agriculture is small, and most of these agriculturists have access to tillable land where they can grow the food crops required for subsistence. Secondly, agricultural work is still considered inferior to livestock raising by the majority of the indigenous population. Even among indigenous agriculturists, wage-work for other, especially Italian, farmers is deemed low-status work and clearly inferior to independent farming. Thirdly, wage-scales for agricultural labour are too low to be attractive to individuals who customarily cultivate their own small plots. Finally, the conditions of work on the Italian concessions do not seem to be conducive to the establishment of a labour force sufficiently content to become permanent. In this connection the following statements made by an expert from the International Labour Organization are revealing:

"Malaria is endemic in the agricultural districts. Water-borne diseases affect a large proportion of the population. Both syphilis and tuberculosis are rife... The native villages in which agricultural workers live have seldom if ever any piped water supply and generally depend on river water, water holes or wells, often insanitary. Every drop must be carried on the heads of the women to their houses, often a long distance away. Sanitary facilities do not exist."

The Italian concessionaires, with the aid of the colonial government, tried various schemes to develop a relatively stable supply of manpower. S.A.I.S., for example, organized collective settlements for indigenous groups under local chiefs consisting of 50-family villages with educational, religious and medical facilities for the inhabitants. Each family was given one hectare of land, half of which was used to grow subsistence crops and the other half for commercial crops to be turned over to S.A.I.S. The company provided seed, tools, irrigation and cash advances. In 1935, an estimated 2,500 families had been settled in such villages. The scheme ended with the outbreak of the war.

In the Genale concessions a similar scheme was developed. Families were settled in villages provided with social and religious services, and each family obtained about one-half a hectare of land to grow food and where one head of cattle and four hens could be kept. The head of the family was obliged in return to work five days a week on the Italian plantations, for which he received payment in cash and a quantity of maize. By 1937, an estimated 4,000 families were settled in these villages. This scheme also ended with the war.

Co-participation agreements similar to those in force today in cotton-growing featured the attempt to stabilize a labour force in the Juba area. Here indigenous farmers contracted to grow certain crops, usually cotton, for the Societa Romana di Colonizzazione, a company which controlled 5,000 hectares in the region. The company supplied seed, supervision and technical assistance to the farmers and purchased the entire crop at fixed prices. Contracts were valid for three years.

These schemes owed whatever success they achieved in procuring sufficient labourers for the Italian concessionaires largely to pressures the colonial government exerted on the various local tribes to make them supply the required manpower. Hence, in many cases compulsion was used, supported by governmental sanctions.

2. Crops

The principal food crops grown in Somaliland include durra, maize, beans and sesame, while cotton, sugar cane and bananas are the major commercial crops. Ground-nuts are also cultivated as a minor crop and the production of castor beans enjoyed some prominence in the pre-war period. There is a small production of manioc, rice and fruits and vegetables entirely for domestic consumption. Estimates of area cultivated and production of the main crops are given in Table 4.

Indigenous agriculture is devoted primarily to the cultivation of food crops. Surpluses of these crops are in part sold in the local markets or exchanged for pastoral products, and the remainder enters into export trade. Recently there has been some development of cotton cultivation among indigenous farmers largely stimulated by strong demand and price factors and a coincidence of several good rain years in succession.

Dry farming predominates throughout the indigenous agricultural areas, but in the few places where conditions permit the use of simple irrigation or the exploitation of water-storing natural and artificial depressions, farmers have been alert to utilize them for cultivation. In the main however, reliance on an uncertain and irregular rainfall characterizes the indigenous sector of agriculture in Somaliland.

The major crops grown by Italian planters include cotton, bananas and sugar cane, and attempts were made in the past to establish the commercial cultivation of ground-nuts and castor beans. Small quantities of sesame seed were produced before and during the war. Beginning in the late nineteen-twenties, considerable acreage was devoted by Italian concessionaires to the production of maize, primarily to supply food for the indigenous labourers working on the concessions. This was necessary to make up for restricted output of food crops by indigenous farmers who had left their own shambas (farm plots) to work for the Italians.

In the pre-war period, Italian agriculture concentrated on the production of commercial crops, all except sugar cane going into the export trade. The acreage in cotton and bananas alone accounted for nearly one-half the total area cultivated. During the war years the British Administration directed Italian agriculture to the growing of food crops needed in the Territory, and the production of bananas and cotton consequently ceased. In 1949, the concessionaires again began to revive the cultivation of commercial crops, and in 1950 and 1951 the production of bananas and cotton resumed their former prominent position in Italian agriculture. However, the total area in cultivation on the Italian concessions is now only about one-half of average pre-war levels. Table 5 shows acreage and production of the major crops in selected years.
Table 4. Acreage and Production of Selected Crops; Average 1931-35, Average 1941-45, and 1946 to 1951

A. Acreage in thousands of hectares:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Average 1931-35</th>
<th>Average 1941-45</th>
<th>1946</th>
<th>1947</th>
<th>1948</th>
<th>a/ 1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durra</td>
<td>46.0</td>
<td>46.2</td>
<td>50.0</td>
<td>50.0</td>
<td>..</td>
<td>48.5</td>
<td>30.0</td>
<td>60.0</td>
</tr>
<tr>
<td>Maize</td>
<td>14.4</td>
<td>47.0c</td>
<td>35.0</td>
<td>35.0</td>
<td>..</td>
<td>23.5</td>
<td>12.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Beans</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>0.6</td>
<td>..</td>
<td>0.7</td>
<td>1.7</td>
<td>2.0</td>
</tr>
<tr>
<td>Sesame seed</td>
<td>5.7</td>
<td>24.0d</td>
<td>15.2</td>
<td>..</td>
<td>12.3</td>
<td>6.0</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>Groundnuts</td>
<td>0.9e/</td>
<td>1.1d/</td>
<td>1.0</td>
<td>2.0</td>
<td>1.6</td>
<td>1.3</td>
<td>1.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Sugar cane</td>
<td>0.7</td>
<td>1.3</td>
<td>1.2</td>
<td>1.2</td>
<td>1.3</td>
<td>1.3</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Cotton</td>
<td>6.1</td>
<td>0.5d/</td>
<td>0.4</td>
<td>0.1</td>
<td>0.3</td>
<td>2.7</td>
<td>5.5</td>
<td>25.0</td>
</tr>
<tr>
<td>Bananas</td>
<td>2.7</td>
<td>1.4</td>
<td>2.5</td>
<td>3.0</td>
<td>3.3</td>
<td>2.8</td>
<td>3.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Castor beans</td>
<td>2.7</td>
<td>0.4f/</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

B. Production in thousands of quintals:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Average 1931-35</th>
<th>Average 1941-45</th>
<th>1946</th>
<th>1947</th>
<th>1948</th>
<th>a/ 1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durra</td>
<td>330.8</td>
<td>330.8</td>
<td>350.8</td>
<td>350.0</td>
<td>351.0</td>
<td>320.0</td>
<td>127.0</td>
<td>450.0</td>
</tr>
<tr>
<td>Maize</td>
<td>186.4</td>
<td>440.0c</td>
<td>310.2</td>
<td>175.0</td>
<td>130.0</td>
<td>172.3</td>
<td>96.0</td>
<td>280.0</td>
</tr>
<tr>
<td>Beans</td>
<td>1.1</td>
<td>1.4</td>
<td>2.5</td>
<td>1.8</td>
<td>2.0</td>
<td>2.0</td>
<td>4.4</td>
<td>6.0</td>
</tr>
<tr>
<td>Sesame seed</td>
<td>8.6</td>
<td>28.8d/</td>
<td>17.2</td>
<td>..</td>
<td>16.0</td>
<td>33.7</td>
<td>22.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Groundnuts</td>
<td>7.3g/</td>
<td>5.7d/</td>
<td>2.8</td>
<td>20.0</td>
<td>13.1</td>
<td>10.4</td>
<td>8.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Sugar cane</td>
<td>365.2</td>
<td>474.0</td>
<td>366.7</td>
<td>445.2</td>
<td>506.0</td>
<td>423.3</td>
<td>585.2</td>
<td>50.2h/</td>
</tr>
<tr>
<td>Cotton, raw</td>
<td>8.6</td>
<td>0.6d/</td>
<td>0.6</td>
<td>0.2</td>
<td>0.5</td>
<td>5.0</td>
<td>9.0</td>
<td>23.0</td>
</tr>
<tr>
<td>Bananas</td>
<td>92.5</td>
<td>26.0</td>
<td>60.0</td>
<td>80.0</td>
<td>97.0</td>
<td>280.0</td>
<td>340.0</td>
<td>400.0</td>
</tr>
<tr>
<td>Castor beans</td>
<td>10.8</td>
<td>1.5f/</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>


a/ Principal agricultural areas only.
b/ Estimate.
c/ 1943 - 1945 average.
d/ 1942 - 1945 average.
e/ Minimum in 1931, 200 hectares; maximum in 1935, 2,264 hectares.
f/ 1941 - 43 average; no cultivation thereafter.
g/ Minimum in 1932, 124 tons; maximum in 1935, 1,422 tons.
h/ Quantity of sugar produced; in 1950, 5,057 tons of sugar produced, and 3,569 tons in 1949. Figure for 1951 refers to year ending 30 June 1952.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>9,850</td>
<td>10,771</td>
<td>4,452</td>
<td>11,559</td>
<td>4,989</td>
<td>5,040</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,900</td>
<td>3,000</td>
<td>-</td>
<td>5,000</td>
</tr>
<tr>
<td>Bananas</td>
<td>617</td>
<td>45,000</td>
<td>3,998</td>
<td>350,000</td>
<td>4,631</td>
<td>400,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3,600</td>
<td>441,100</td>
<td>3,800</td>
<td>400,000</td>
</tr>
<tr>
<td>Sugar cane</td>
<td>645</td>
<td>309,600</td>
<td>867</td>
<td>532,146</td>
<td>1,182</td>
<td>609,540</td>
<td>1,042</td>
<td>321,556</td>
<td>1,700</td>
<td>36,000A</td>
<td>1,256</td>
<td>50,000A</td>
<td>2,000</td>
<td>50,000A</td>
</tr>
<tr>
<td>Sesame</td>
<td>-</td>
<td>408</td>
<td>392</td>
<td>2,000</td>
<td>98</td>
<td>554</td>
<td>1,589</td>
<td>1,403</td>
<td>835</td>
<td>930</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Maize</td>
<td>9,760</td>
<td>120,000</td>
<td>6,069</td>
<td>87,114</td>
<td>6,689</td>
<td>69,029</td>
<td>7,076</td>
<td>62,683</td>
<td>9,550</td>
<td>68,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ground-nuts</td>
<td>-</td>
<td>-</td>
<td>2,265</td>
<td>14,219</td>
<td>551</td>
<td>2,529</td>
<td>1,356</td>
<td>6,582</td>
<td>5,055</td>
<td>8,600</td>
<td>1,000</td>
<td>8,000</td>
<td>300</td>
<td>1,500</td>
</tr>
<tr>
<td>Castor beans</td>
<td>-</td>
<td>-</td>
<td>6,240</td>
<td>15,375</td>
<td>424</td>
<td>814</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rice</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>458</td>
<td>6,436</td>
<td>350</td>
<td>3,950</td>
<td>53</td>
<td>570</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>22,477</td>
<td>23,024</td>
<td>21,093</td>
<td>12,055</td>
<td>17,490</td>
<td>11,500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

a/ Sugar produced.
b/ Totals include minor crops not given in table.
Durra and maize are the basic indigenous food crops, the grain being consumed by the growers themselves and traded to interior and northern parts of Somaliland which are inhabited chiefly by non-agriculturists. It was estimated in 1946 that about four-fifths of the entire indigenous cultivated area was sown in these grains. Extensive durra cultivation takes place in the Upper Juba Valley, along the Webbe Shebeli River and in the region between the rivers and maize is grown largely in the Lower Juba Valley and in the coastal belt south of Afgoi. In certain areas where rainfall is relatively plentiful or sub-soil moisture is present, farmers produce two crops of durra year. The residues of grain crops, particularly of durra, are consumed by livestock.

In 1949 and again in 1950, official sources reported that local output of the staple foodstuffs -- durra, maize, beans, oils and fruit -- normally suffices for the needs of the indigenous inhabitants. The available evidence indicates, however, that there often has been some reliance on imports of durra and maize, the basic agricultural foods, to feed the population. Before 1924, the indigenous agricultural economy is said to have been self-sufficient and able as well to supply a sizeable annual surplus for export. After that year, which marked the beginning of large-scale European colonization in Somaliland, there was a diversion of man-power from the indigenous farms to the European plantations large enough to reduce considerably indigenous food production. It was then necessary to import grain. In the five-year period 1930-1935, for example, net imports of durra and maize combined averaged over 43,000 quintals annually, ranging from nearly 5,700 quintals in 1931 to over 134,000 in 1933, as shown in Table 6. Relatively large quantities of these grains were also imported in the three years 1945-1947.

Since 1948, there has been a striking reversal in the Territory's grain trade, although production figures show declines in the post-war period compared with pre-war. Output of durra and maize (combined) averaged about 400,000 quintals in the years 1948-1950, when net exports of these grains were fairly substantial. Output in the pre-war period, on the other hand, averaged over 500,000 quintals, and net imports of grain were considerable. During the war years and up to 1948 grain production reached the highest levels recorded for the Territory. In 1951, output of grains was estimated at 730,000 quintals.

Thus, in past years production of grain has exceeded present levels on the average, excluding 1951, even taking into account occasional droughts. It should be observed, however, that a higher level of production in the pre-war period and in the immediate post-war years was supplemented by relatively heavy imports of grain, indicating a fall in present levels of consumption. Rough calculations show that per capita supplies of grain available for

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2/ During the eight years, 1932-1934 and 1945-1950, grain, chiefly durra, was the second leading import by value in four years, namely 1933, 1945, 1946 and 1947.

3/ Production figures for 1949 and 1950 are based on estimated output in the principal agricultural areas of the Territory. Hence, small quantities produced elsewhere in the Territory are not included.
Table 6. Foreign Commerce in Durra and Maize
(In Quintals)

<table>
<thead>
<tr>
<th>Year</th>
<th>Durra</th>
<th>Maize</th>
<th>Combined Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Imports</td>
<td>Exports</td>
<td>Imports</td>
</tr>
<tr>
<td>1930</td>
<td>5,180</td>
<td>64</td>
<td>1,559</td>
</tr>
<tr>
<td>1931</td>
<td>5,704</td>
<td>48</td>
<td>31</td>
</tr>
<tr>
<td>1932</td>
<td>18,724</td>
<td>-</td>
<td>23,112</td>
</tr>
<tr>
<td>1933</td>
<td>37,937</td>
<td>-</td>
<td>96,642</td>
</tr>
<tr>
<td>1934</td>
<td>22,086</td>
<td>1</td>
<td>6,939</td>
</tr>
<tr>
<td>1948</td>
<td>5,297</td>
<td>7,289</td>
<td>626</td>
</tr>
<tr>
<td>1949</td>
<td>5,306</td>
<td>50,013</td>
<td>3,557</td>
</tr>
<tr>
<td>1950</td>
<td>6,988</td>
<td>7,541</td>
<td>2,471</td>
</tr>
<tr>
<td>1951</td>
<td>5,883</td>
<td>150</td>
<td>7,017</td>
</tr>
</tbody>
</table>

indigenous consumption declined from 0.52 quintals per annum in 1931 and 1932 to 0.38 quintals in 1948 and 1949.\(^1\) In the same years per capita supplies of wheat flour available in the Territory were 46.0 and 45.7 kilograms, respectively. Clearly, then, there could not have been any significant substitution of (imported) wheat products for grain in respect of the indigenous population. It is probably true that the indigenous inhabitants of urban centres augment grain foods with wheat products, but it is unlikely that this small segment of the population has greatly affected the traditional food habits of the Somali.

Somaliland is probably self-sufficient in fats and oils because of the large production of ghee and a smaller but significant output of camel fat. However, edible vegetable seeds and oils have often been in short supply in the past. An average of over 26,000 quintals of these seeds and oils\(^2\) was imported (net) in the five-year period 1930-1935, and, excluding the war years, it was not until 1947 that the country shifted to a net export position. The trade in sesame and groundnuts has been the decisive factor in this situation, as shown in Table 7.

Indigenous production of oilseeds has been limited mainly to sesame seed and ground-nuts. A good deal of sesame seed, which is essentially an indigenous crop, is grown in the agricultural areas of Somaliland. The farmers use primitive mills to crush the seed. Surpluses of seed and oil above subsistence needs are traded locally and sold for the export trade, and sesame seed plant residues serve as fodder for livestock and, sometimes, for human consumption. Between 1948 and 1950, exports of sesame seed and oil assumed importance in the country's foreign trade, averaging annually over 9 per cent of the total value of exports. In 1951, however, these exports were negligible. Ground-nut production by indigenous farmers is quite small and the crop serves largely for home consumption and local trade.

Large-scale production of sesame seed did not take hold among the Italians despite the fact that there existed a considerable demand for the product in Italy. Substantial quantities of sesame seed were exported to Italy annually, especially in the first half of the nineteen-thirties, but most of the seed was imported from Kenya and re-exported. The available data show that the concessionaires never put more than a few hundred hectares into sesame seed cultivation -- 392 hectares in 1935 which produced about 2,000 quintals of seed. The explanation given was that sesame seed cultivation requires considerable labour and care, and that the chronic labour shortage and production costs did not warrant large-scale cultivation.

Ground-nut production has fluctuated considerably since the crop was first introduced by the Italians during the early period of colonization. However, it never achieved major importance, although sporadic efforts were made to induce indigenous farmers to grow ground-nuts. The Italian concessionaires first entered into serious cultivation of this crop in the beginning of the nineteen-

\(^1\) 1931 census figures were used in calculating net per capita supplies (production plus imports minus exports) in the pre-war years, and the population estimate of 31 December 1950 was used for the post-war years.

\(^2\) Including sesame seed and oil, groundnuts and oil, cottonseed and oil and coconut oil.
thirties, and by 1937 about 14,500 quintals were produced on some 2,500 hectares. Acreage and output then declined, and in 1939 only about 2,500 quintals were harvested from some 550 hectares. Production reached a highpoint in 1947, when output amounted to 20,000 quintals, but since that year both the acreage devoted to ground-nuts and the crops produced have fallen off steadily.

Recently, the (Italian) operators of the several oil mills in the Territory are reported to have distributed imported ground-nuts as seed in an attempt to raise indigenous output sufficiently to keep their mills working to capacity.

Production of cottonseed has naturally reflected the trend of cotton cultivation in the Territory. Between 1928 and 1932, when Italian cotton output was high, net exports of cottonseed and oil were equally high, reaching a peak of 6,150 quintals in 1930. After 1932, however, production of cotton declined rapidly as a reaction to the world-wide depression and toppling prices for cotton and trade in cottonseed correspondingly decreased; indeed, in 1932 the trade balance showed net imports of cottonseed to the amount of 542 quintals. In view of the strong revival of cotton cultivation since 1949, it is likely that cottonseed will regain and perhaps surpass its former position in the economy of the Territory.

Italian concessionaires made some brief efforts to grow sunflower seeds, but these soon petered out. In 1929, a crop of 860 quintals was harvested from 136 hectares.

Production of castor beans assumed a certain importance in Italian agriculture in the pre-war period, but cultivation ceased entirely shortly after the war began and no revival has yet taken place. This crop would seem to be worth reviving because of the increasing demand for the bean in the world market in recent years. During the years of intensive cultivation of castor beans on the Italian farms, 1930-1937, the Territory supplied a substantial portion of the total output of Africa, excluding Egypt. The continent, excluding Egypt, accounted for nearly 10 per cent of world supplies in 1950. The Italians used the castor bean crop primarily for its oil content in the lubrication of machines; now, however, the bean has become an important source of materials in the making of plastics.

1/ In the face of this reported shortage of oilseeds for the mills, average annual net exports of sesame seed and groundnuts from the Territory in the period 1948-1950 amounted to nearly 22,000 quintals, while average net exports of sesame oil and groundnut oil were less than 1,300 quintals.

2/ Castor beans are on the United States list of critical materials for stockpiling.

Table 7. Net Trade in Edible Vegetable Seeds and Oils  
(In quintals; net imports = -, net exports = +)

<table>
<thead>
<tr>
<th>Product</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sesame seed</td>
<td>-18,536</td>
<td>-14,352</td>
<td>-20,195</td>
<td>-41,491</td>
<td>9,402</td>
<td>18,934</td>
<td>16,072</td>
<td>422</td>
<td></td>
</tr>
<tr>
<td>Sesame oil</td>
<td>-163</td>
<td>-188</td>
<td>-302</td>
<td>-347</td>
<td>-299</td>
<td>3,237</td>
<td>125</td>
<td>50</td>
<td>11</td>
</tr>
<tr>
<td>Ground-nuts</td>
<td>0</td>
<td>0</td>
<td>-100</td>
<td>2,848</td>
<td>3,472</td>
<td>11,626</td>
<td>7,145</td>
<td>403</td>
<td>--</td>
</tr>
<tr>
<td>Ground-nut oil</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>6</td>
<td>388</td>
<td>--</td>
</tr>
<tr>
<td>Cottonseed</td>
<td>5,581</td>
<td>1,019</td>
<td>-542</td>
<td>-52</td>
<td>-51</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cottonseed oil</td>
<td>569</td>
<td>850</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Coconut oil</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,159</td>
<td>-468</td>
<td>-712</td>
<td></td>
</tr>
</tbody>
</table>

Balance: -12,449 -12,671 -21,139 -41,841 -42,369 23,122 25,742 16,201

Source: Same as for Table 6.
Indigenous farmers grow several varieties of beans, especially in the dry-farming areas of the coastal belt -- near Obbia and in the northern section of Benadir. Beans are a major item in the indigenous diet and usually enter exclusively into domestic consumption. In 1950 and 1951, however, 2,614 and 2,127 quintals respectively, were exported, the first exports since 1931, when 318 quintals were exported. Production of beans in the post-war period has been substantially higher than pre-war. Output in 1950 quadrupled average pre-war levels, and even higher production is estimated for the year 1951, as shown in Table 4 above.

Beans are generally planted in the same fields with durra or maize, and it is believed that the roots of the bean plant serve as good fertilizer. The residues of the bean crop supply cattle with a considerable amount of forage.

In addition to the basic food crops -- durra, maize, beans -- minor quantities of manioc, bananas, citrus fruits and fresh vegetables are grown for home consumption and for sale in the local markets to meet the needs of the urban inhabitants. In respect of fresh fruits and vegetables, domestic production does not satisfy home requirements.

Cotton cultivation has experienced a spectacular revival since 1949. An outstanding feature of this revival has been the growth of indigenous cultivation in large part under co-participation contracts with Italian concessionaires. Formerly, the bulk of the cotton grown for export was produced by the Italian colonists on their irrigated farm lands. However, even before the Italians entered the Territory indigenous farmers produced cotton, especially the tribes near Afgo and Mogadishu. Most of this cotton was used by indigenous spinners and weavers to make a cloth known as futa Benadir, which was popular among the population, but small quantities were also exported; an annual average of about 400 quintals went out of the Territory between 1909 and 1914, mainly to Bombay.

S.A.I.S. first began large-scale cotton cultivation soon after settling in Somaliland in 1920, and a second major cotton-growing enterprise was established at Genale in 1924. Pre-war cotton production reached a peak in the years 1929-1931, when output of raw cotton averaged over 11,000 quintals per year from a cultivated area of about 10,000 hectares. The depression and falling world prices forced the Italian farmers to reduce the cotton crop and the production of bananas and sugar cane was increasingly substituted. In 1937/1938, less than 3,700 hectares were in cotton, yielding an output of some 4,175 quintals. Irrigated cotton cultivation revived after 1938, but the war put an end to it and the fields were utilized instead to grow food crops.

In 1949, cotton cultivation again took hold and, under the stimuli of high world prices and strong demand and good successive rain years, it has since expanded phenomenally. Output of raw cotton was nearly 5,000 quintals in 1949, 9,000 quintals in 1950 and a crop estimated at 23,000 quintals was expected in 1951. Most of the 25,000 hectares now in cotton is being cultivated by indigenous farmers who have been induced to put part of their

\[1/\] These agreements are discussed in detail in the report by the Agriculture Expert. See pages 151-237.
shambas into this crop under co-participation agreements. The indigenous crop is dependent upon rainfall except in the Juba Valley where depressions infiltrated by river floods-- called desceks-- are being utilized.

The banana industry of Somaliland has enjoyed special benefits from the very beginning, including a protected market in Italy and prices for the product considerably above international market prices. It is exclusively an Italian enterprise and largely concentrated in the Genale concessions. The crop first became important when the cotton market collapsed, exposing the concessionaires to the risk of complete failure.

Banana cultivation rose sharply in the nineteen-thirties -- from 617 hectares with an output of 45,000 quintals in 1930, to an annual average of nearly 4,000 hectares in 1935-1939, producing over 400,000 quintals of bananas. Output fell to negligible quantities during the war. Since 1948 the production of bananas has again become increasingly important in the Territory's export trade, and in 1951 over 250,000 quintals were exported, representing nearly 34 per cent of the total value of exports in that year. The post-war industry, as in the pre-war period, is entirely in Italian hands with indigenous participation limited to labour for wages.

The Territory's output of bananas does not entirely enter into export trade. Italy's purchases of the product through a monopoly organization, the Azienda Monopolio Banana (AMB), amount to roughly one-quarter to one-half of the total production, and since there is no other market for Somaliland bananas at this time, nor has there been one in the past, the unsold portion is disposed of in local markets or goes to waste. Indigenous farmers produce small quantities of bananas for their own consumption and for local sale.

Production of sugar cane is limited to the S.A.I.S. plantation, which also operates the single sugar mill in the Territory. Output of sugar in 1950 amounted to some 50,000 quintals, equalling peak production during the pre-war period. In recent years, according to official statements, domestic consumption has increased considerably, and it is estimated that some 80,000 quintals of sugar are now required to fill the home demand. Imports of sugar have in part met the gap between output and demand, nearly 10,000 quintals having been imported in 1950 and over 33,000 in 1951. S.A.I.S. has expanded the acreage devoted to sugar cane cultivation substantially since pre-war, but this plantation is apparently reaching its production limits. Hence, plans have been under discussion for putting land into sugar cane in the Juba area, along with the construction of another sugar mill, in order to meet domestic requirements with domestic production. Although production costs of domestic sugar are comparatively high, the product competes favorably with imported sugar which carries heavy transport charges. Whether surplus Somaliland sugar will be able to sell in the world market at some future time will depend upon cost factors that cannot be assessed at this time.

Somaliland is one of the world's important sources of incense. The sale of this product, along with myrrh, gum arabic and aromatic woods, provides the pastoral inhabitants of the barren Midjertein region with additional income essential to their subsistence. Pre-war and post-war data indicate that

1/ See the Agriculture Experts' report, pp. 189-195, for a detailed discussion of the banana industry.
the value of these products entering the export trade has remained fairly constant over the years, the proportion to total exports ranging from about 2 per cent to 7 per cent, depending on the proportion of other exports. Arab merchants purchase the incense and related products collected by the Somalis at prices said to be well below market rates.

Agricultural products have been of major importance in the commerce of the Territory, both internal and foreign. Information on the extent of internal trade is not available, but it may be safely assumed that this trade is substantial since the large non-agricultural population depends heavily upon domestic agricultural production for such staple foodstuffs as durra, maize and sugar, for which livestock products are exchanged. The role of agricultural products in the export sector is shown clearly in the following table:

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of Total Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1932</td>
<td>45.2</td>
</tr>
<tr>
<td>1933</td>
<td>55.5</td>
</tr>
<tr>
<td>1934</td>
<td>55.6</td>
</tr>
<tr>
<td>1945</td>
<td>30.0</td>
</tr>
<tr>
<td>1946</td>
<td>23.6</td>
</tr>
<tr>
<td>1947</td>
<td>23.4</td>
</tr>
<tr>
<td>1948</td>
<td>31.8</td>
</tr>
<tr>
<td>1949</td>
<td>41.2</td>
</tr>
<tr>
<td>1950</td>
<td>48.4</td>
</tr>
<tr>
<td>1951</td>
<td>54.1</td>
</tr>
</tbody>
</table>

The products of agriculture which go into the export trade derive mainly from Italian production on the concessions. Indigenous farmers have supplied varying quantities of grain and sesame seed for the export market in times of surplus, but these crops are not grown specifically for commercial purposes. Indigenous agriculture continues to concentrate on food crops for subsistence and local exchange, the single exception being the recent development of cotton cultivation mentioned before. Italian farmers, on the other hand, have devoted their lands principally to the cultivation of cotton and bananas for the export trade, and to sugar cane for sale in the domestic market.
C. ANIMAL HUSBANDRY

Nearly one-half of the total population of Somaliland derives its basic subsistence from the keeping of livestock. An additional 250,000 inhabitants combine livestock holdings with agriculture. The livestock consist principally of camels, goats, sheep and cattle, which provide food for subsistence -- milk, ghee and meat -- and products for exchange or sale -- hides and skins, ghee, animal fat and live animals. Accurate data on the number of livestock in Somaliland are not available. Pre-war and post-war estimates give the following figures, but these figures are subject to considerable error, most likely on the conservative side:

<table>
<thead>
<tr>
<th>Animal</th>
<th>1939</th>
<th>1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camels</td>
<td>1,065,000</td>
<td>1,156,000</td>
</tr>
<tr>
<td>Sheep and Goats</td>
<td>3,446,000</td>
<td>4,135,000</td>
</tr>
<tr>
<td>Cattle</td>
<td>1,008,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Horse, mules and donkeys</td>
<td>9,695</td>
<td>..</td>
</tr>
</tbody>
</table>

Livestock are used in payment of fees for pasturage and water, in payment of fines usually imposed for encroachments on pastures and watering places belonging to others, in payment of bride-price and in the settlement of blood-feuds. The ownership of large numbers of animals, regardless of their quality or economic inutility, enhances the prestige of a Somali; moreover, in the Somali view there is no nobler occupation than keeping livestock. The owners strongly resist selling their animals, except for occasional old males, although herds and flocks may be far too large for the available grazing pastures and water supplies. Thus, the livestock sector of the Somaliland economy involves deep-seated social, cultural and psychological attitudes and values in addition to the purely economic factors.

Tribal or sub-tribal control of pasture land and the water sources therein is common in Somaliland. Within this communal organization individuals have access to water and forage without any limits on the number of livestock they may graze. There is no information on the quantities of animals held by individual families or larger kindred and social groupings among the nomadic pastoralists. It is known, however, that competition between social groups for the pastures and water supplies is keen, frequently leading to conflicts ending in bloodshed and the carrying on of blood feuds.

The pastoral sector of the Somaliland economy developed in an environment characterized by poor water and grazing resources, considerable heat and humidity and the presence of various animal diseases. The ability of livestock to survive

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1/ Reliable substantive information on the livestock sector of the Somaliland economy does not exist. Lacking are such important facts as size of herds and flocks in relation to pastures and water supplies, size of family or kindred holdings, production and consumption levels, terms of exchange of livestock products for agricultural and manufactured necessities, etc. Hence, the textual description herein presented is over-generalized and lacks the data essential for an adequate analysis of the situation.
in such conditions has therefore been of paramount importance.

Climatic factors always present a hazard to the Somali pastoralist. Rainfall is irregular and droughts often occur in certain areas, particularly in the northern section of the country. Livestock losses are frequent as a result of late rainfalls or drought. It has been reported, for example, that a ten-year drought in the Midjurtein, ending in 1951, killed off 75 to 90 per cent of the livestock population in the region. Moreover, the vegetation there has been left in such a state as to effectively prevent replacement of stock for many years.

The level of livestock nutrition is generally considered quite low; according to expert opinion, the animals now endure "sub-maintenance rations for sustained periods at least once each year and often twice." The Somali pastoralist does not appear to practise the preservation of grass or other crop residues as feed resources for his livestock. Post-harvest residues of sorghum and maize are, however, utilized at present. Many diseases also afflict the animals, including trypanosomiasis, rinderpest, hemorrhagic septicaemia, pleuro-pneumonia, etc.

Somali livestock depend for their forage almost entirely on natural pastures which are unevenly distributed over a vast area which largely lacks permanent water supplies. The nomadic pastoralists who range over this area are for the most part limited to the keeping of camels, goats and sheep, animals which can subsist for relatively long periods without water. Goats and sheep are distributed throughout the country, while camels apparently thrive everywhere except in the southwest portion of the Juba region. Cattle, on the other hand, require water frequently and regularly and must be kept near sources of permanent water. Thus, cattle are mainly found in the southern half of the country, from Obbia down along the coast and in the region of the Juba and Webbe Shebeli Rivers. The area of cattle-raising is further restricted by the presence of tsetse fly near the two rivers.

Apart from providing subsistence to the holders of livestock, animal husbandry is of crucial importance in the broader economy of the Territory. Internal trade in livestock and their products is estimated as quite considerable, though its extent has never been actually measured. The pastoralists supply milk and milk products, especially ghee, and hides and skins to the local markets and, in return, purchase grains, tea, sugar and cotton piece goods. The shoe factory at Brava utilizes domestic hides and skins, and the tanning plants at Mogadishu and Kismayu absorb additional quantities of these products. Indigenous craftsmen also make shoes and other leather commodities from local hides and skins.

The products of animal husbandry enter into the export trade of the Territory in considerable quantities. Exports of hides and skins, ghee, camel fat and live animals have together accounted for one-fifth to over three-fifths of the total value of exports over the years, as the following figures show!
Exports of Animals and Animal Products as Percentage of Total Export Value

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of Total Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1932</td>
<td>32.1</td>
</tr>
<tr>
<td>1933</td>
<td>22.8</td>
</tr>
<tr>
<td>1934</td>
<td>20.4</td>
</tr>
<tr>
<td>1945</td>
<td>51.9</td>
</tr>
<tr>
<td>1946</td>
<td>60.5</td>
</tr>
<tr>
<td>1947</td>
<td>54.3</td>
</tr>
<tr>
<td>1948</td>
<td>49.6</td>
</tr>
<tr>
<td>1949</td>
<td>43.2</td>
</tr>
<tr>
<td>1950</td>
<td>38.8</td>
</tr>
<tr>
<td>1951</td>
<td>32.1</td>
</tr>
</tbody>
</table>

The quality of livestock products entering into local foreign trade is described as poor, principally owing to the primitive techniques used in preparing hides and skins and ghee. Hides and skins are dried and salted for preservation by the nomadic pastoralists in the bush areas they inhabit. They sell the products to Arab or other traders, many of whom are agents for the several exporting firms in the Territory. These traders carry with them supplies of cereals, textiles, tea and sugar, which the pastoralists purchase. At the lowest of marketing stages, transactions consist entirely of barter.

Mogadishu is the principal market for hides and skins, and secondary marketing centres are located at Galcaio and Bendir Cassim. One firm, Besse, maintains agents in the marketing centres and sub-agents who travel about and procure hides and skins directly in the bush inhabitations of the livestock owners. Besse owns its own ship, which takes tea, sugar and other commodities to the Midjurtein region and exports the hides and skins of that region. Goat and sheep skins apparently command the highest value, while the camel skin is very cheap. Sales, however, are generally in bulk lots based on an average price without distinction as to differing qualities.

The Administration's policy in respect of hides and skins, one of the most valuable resources of the Territory, has been rather vague and inconclusive. Some veterinary assistance is provided, and a school has been established to teach Somalis methods of improving their hides and skins. Otherwise, little has been done except to try to convince pastoralists of the value of correct branding practices and to induce them not to sell their product in bulk.

No livestock packing industry exists in the Territory at the present time. Before the war a meat processing plant was set up, but it soon failed, allegedly because the indigenous population was reluctant to sell sufficient cattle. Official opinion now holds that a small-scale plant producing canned meat for export would have some chance of success, especially since the market price for cattle in Mogadishu is low. It is believed that the best location for such a plant would be Kismayu, since large number of cattle are concentrated in the region and water from the Juba River is available to maintain grazing cattle. Production of refrigerated meat is not possible owing to rinderpest.

Live animals, mainly old males, are disposed of in Mogadishu, where most of
the pastoral tribes and sub-tribes have local representatives whom they trust. These agents supply the local market according to demand and price. There is said to be a continuous demand for livestock from the Lower Juba to supply the needs of the Midjurtein inhabitants and for Aden and Zanzibar. However, this demand remains unsatisfied owing to the tendency of livestock holders to sell only their worst stock.

D. INDUSTRY

The development of industries in Somaliland is still in the preliminary stage. Relatively few plants and factories have been established, and these are confined primarily to the processing of agricultural and livestock products. They produce a narrow range of commodities in small quantities largely for home consumption. The labour force utilized in industry amounts to only a tiny fraction of the total population.

The single large-scale industrial enterprise in the Territory is owned by the Societa Agricola Italo-Somala (S.A.I.S.), which runs a sugar mill and associated distillery plant, an oil mill for the crushing of ground-nuts and cottonseed, a ginnery, a newly-installed modern mechanical plant and a soap factory; the last has been idle for some years, but it is being re-activated. S.A.I.S. is also the second largest producer of electric power in the Territory, with equipment that can yield an output of some 2 million kilowatt hours per annum. According to a recent official report, ¹ this company has allocated $1,850,000 for the rehabilitation and modernization of its industrial plants of which nearly $700,000 was expended in the period 1 April 1950/31 December 1951. A monthly average of some 1,500 indigenous workers and 80 Europeans are employed at S.A.I.S.

The Azienda Elettro-Industriale de Vincenzi, the largest producer of electric energy in the Territory, also operates an oil-seed crushing mill for the extraction of cottonseed oil, ground-nut oil and sesame seed oil. Annual output at present is about 5,000 quintals of oil, but the mill's capacity surpasses 30,000 quintals. In 1951, this company installed a cotton gin and a plant producing distilled water and ice. ²

Two factories, which together employ about 1,000 workers, service the Territory's banana export industry. They manufacture wooden crates used to pack and protect the tender Somaliland banana which is shipped overseas, mainly to Italy. This adds to the price of the fruit in two ways: 1) the cost of the crate plus packing and handling charges; and 2) the fewer bananas that can be transported on a ship because of the extra space taken up by the crates. Experiments are being

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² Ibid, p. 106.
<table>
<thead>
<tr>
<th>Enterprise</th>
<th>No.</th>
<th>Average Annual Production</th>
<th>Present Annual Capacity of Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.A.I.S. and S.S.S.-Villabruzzi cane sugar, alcohol, methylated spirit</td>
<td>1</td>
<td>(50,000 quintals sugar, 51,496 litres methil-spirit, 3,785 litres alcohol)</td>
<td>(50,000 quintals sugar and 500,000 alcohol and meth. spirit)</td>
</tr>
<tr>
<td>Bana Crates Manufacture</td>
<td>2</td>
<td>2,350,00 crates</td>
<td>2,350,000 crates</td>
</tr>
<tr>
<td>L.I.P.A.S. (banana, pawpaw, mangus, marmalade, fruit juice)</td>
<td>1</td>
<td>3,500 quintals</td>
<td>10,000 quintals</td>
</tr>
<tr>
<td>Macaroni factory</td>
<td>1</td>
<td>3,000 quintals</td>
<td>10,000 quintals</td>
</tr>
<tr>
<td>Bakery a/</td>
<td>1</td>
<td>6,000 quintals</td>
<td>12,000 quintals</td>
</tr>
<tr>
<td>Cheese factory</td>
<td>1</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Liqueurs</td>
<td>3</td>
<td>16,500 litres</td>
<td>106,800 litres</td>
</tr>
<tr>
<td>Syrups</td>
<td>3</td>
<td>40,000 litres</td>
<td>58,000 litres</td>
</tr>
<tr>
<td>Vinegar</td>
<td>1</td>
<td>21,000 litres</td>
<td>30,000 litres</td>
</tr>
<tr>
<td>Ice and distilled water</td>
<td>1</td>
<td>1,021,000 litres distilled water, 370,000 kilos ice</td>
<td>5,500,000 litres d.w., 1,000,000 kilos ice</td>
</tr>
<tr>
<td>Mineral water</td>
<td>1</td>
<td>1,000,000 litres</td>
<td>..</td>
</tr>
<tr>
<td>Sweet meats</td>
<td>1</td>
<td>366 quintals</td>
<td>1,000</td>
</tr>
<tr>
<td>Oil mills</td>
<td>3</td>
<td>8,300 quintals</td>
<td>46,000 quintals</td>
</tr>
<tr>
<td>Tanning and leather b/</td>
<td>2</td>
<td>200 quintals leather (100,000 sq.ft. goat skins, 3,500 hides and skins)</td>
<td>1,000 quintals leather (250,000 sq.ft. goat skin, 3,500 hides &amp; skins)</td>
</tr>
<tr>
<td>Shoe factory</td>
<td>1</td>
<td>5,000</td>
<td>18,000</td>
</tr>
<tr>
<td>Handicrafts, ivory</td>
<td>3</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Soap factory</td>
<td>4</td>
<td>6,000 quintals</td>
<td>49,000 quintals</td>
</tr>
<tr>
<td>Printing houses</td>
<td>4</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Varnishes, dyestuffs</td>
<td>2</td>
<td>206 quintals</td>
<td>1,212 quintals</td>
</tr>
<tr>
<td>Chemical</td>
<td>2</td>
<td>(5,000 cubic metres oxygen, 50,000 litres hypochlorides)</td>
<td>20,000 cubic metres, 200,000 litres</td>
</tr>
<tr>
<td>Engineering trades, repairs</td>
<td>15</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>

a/ There are seven more bakeries in Mogadishu.

b/ Figures for labour employed refer only to one firm.
<table>
<thead>
<tr>
<th>Average Monthly Indigenous Employment</th>
<th>European</th>
<th>Source of Raw Materials</th>
<th>Local or Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,500</td>
<td>80</td>
<td>100% local</td>
<td>100% sugar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>90% alcohol for local con.</td>
</tr>
<tr>
<td>1,000</td>
<td>7</td>
<td>90% local</td>
<td>100% export</td>
</tr>
<tr>
<td>20</td>
<td>3</td>
<td>local</td>
<td>export</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>imported</td>
<td>local</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
<td>imported</td>
<td>local</td>
</tr>
<tr>
<td>..</td>
<td>..</td>
<td>local</td>
<td>local</td>
</tr>
<tr>
<td>28</td>
<td>4</td>
<td>90% local</td>
<td>local</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>local</td>
<td>local</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>local</td>
<td>local</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>95% local</td>
<td>local</td>
</tr>
<tr>
<td>35</td>
<td>5</td>
<td>local</td>
<td>84% local</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>90% local</td>
<td>local</td>
</tr>
<tr>
<td>..</td>
<td>..</td>
<td>95% local</td>
<td>98% local</td>
</tr>
<tr>
<td>..</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>26</td>
<td>3</td>
<td>50% local</td>
<td>90% local</td>
</tr>
<tr>
<td>..</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>50% local</td>
<td>local</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>imported</td>
<td>local</td>
</tr>
<tr>
<td>120</td>
<td>30</td>
<td>..</td>
<td>local</td>
</tr>
</tbody>
</table>
conducted to find cheaper substitutes for these crates.1/

The remaining industries consist of small plants devoted to the production of foods and beverages and the manufacture of leather products, soap and chemicals. According to official reports, all of these concerns are operating well below capacity. Table 8 gives the available data on the principal industries in the Territory in 1951.

1. Private Investment in Industry

The data on Italian private industrial investment in Somaliland are too scanty to permit an adequate analysis. However, some indication of the emphasis and trend of such investment may be gleaned from the few statistics available, which deal with the pre-war period.

Private investments in industry as of 1940 2/ amounted to 383.5 million lire, distributed among 181 firms. Of the total, 213.7 million lire, or nearly 56 per cent, was invested in construction and building materials, furniture, mechanical engineering, workshops, etc., while 122.3 million lire or nearly 32 per cent went into such public utilities as transport and electricity. Only 18 million lire, or less than 5 per cent of the total investment, went into industries processing local agricultural and fishing products directed toward the export trade. Relatively small investments were made to establish a few industries devoted to supplying domestic needs, chiefly of the Italian sector, for light consumption goods such as leather, beer and ice and printing. (See Table 9.)

During the war many of the industries ceased operations and the plants, notably the fish canneries and the salt works, were dismantled and removed from the country. Some of these have not yet been restored, though, as indicated before, the Administration has shown interest in at least reviving the fishing and salt industries; in the period 1932-1934, exports of fish products and salt accounted for about 20 per cent of the value of total exports.

2. Specific Industries

Sugar. At present, maximum annual production of sugar at the S.A I.S. mill, the only one in the Territory, approximates 50,000 quintals. Domestic requirements of sugar are officially estimated at 80,000 quintals, and in 1951, the Territory imported over 33,000 quintals to meet local demands.

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1/ It is estimated that about 20 per cent more banana cargo could be stowed on board chips if paper mattresses could be substituted for the crates.

2/ Source: Memorandum Sulla Situazione Economica E Finanziaria Dei Territori Italiani in Africa, Roma, 1946, p. 45. According to this source, these data refer only to investments in industry. The data on the capital invested in agriculture, which was particularly large, are lacking. It is to be noted that the industrial activities here described are only those authorized by the Ministry and registered with trade associations as of 1940.
This level of consumption contrasts strikingly with average levels in the ten-year period prior to 1950, which amounted to slightly less than 40,000 quintals. Indeed, imports of sugar in 1950 were only 9,435 quintals, while in 1948 and 1949 there were net exports of sugar of 2,569 and 1,048 quintals, respectively. The sudden rise in domestic consumption may be associated with the new influx of Italians into the Territory rather than a higher level of consumption for the indigenous population.

Plans are underway to enlarge the capacity of the S.A.I.S. mill sufficiently to satisfy local requirements for 80,000 quintals of sugar. An additional plan, still in the preliminary stage, proposes to establish the cultivation of sugar cane in the Juba region together with a sugar mill for the purpose of producing sugar for export. However, the Territory's sugar is currently produced at too high a cost to permit its entrance into world market competition. Local sugar is now produced at 115 somalos1/ per quintal whereas Kenya produces at 80 somalos. Moreover, to export Somaliland sugar additional charges would raise the cost to 125 somalos. However, local sugar competes favorably with imported sugar owing to the heavy loading and transport charges carried by the latter -- e.g., Cuban sugar landed in Somaliland costs 140 somalos per quintal. The Juba plan, therefore, is based on the hope that higher yields of sugar cane in that region plus reduced production costs in general will enable the product to sell in the world market.

Textiles. A noteworthy development in the Territory's industrial sector is the new textile factory recently completed in Mogadishu by the Societa Manifatture Cotoniere d'Africa. This is the first attempt to manufacture cotton piece goods within the Territory apart from the indigenous-produced futas Benadir described below. It is hoped thereby to reduce the heavy dependence upon imported cloth, an item which accounts for a considerable part of the total value of imports.

The Societa Manifatture Cotoniere d'Africa is virtually a branch of a large textile concern located in Italy which provided an important part of the capital of 580,000 somalos originally subscribed to establish the local factory. The remaining capital was provided by the Mogadishu branch of the Bank of Naples, a local Italian firm which deals substantially in textiles, and two Somalis, both of whom are said to be active in local politics. Most of the capital is Italian; the Bank of Naples' share represents a direct participation in the enterprise rather than an investment loan to a customer.

The new textile weaving factory is equipped with 100 looms which can produce 1,050,000 metres of cotton goods annually.2/ It is planned to manufacture a white drill cloth at the outset, and grey sheeting later as well. According to the original plans for establishing textile manufacturing in Somaliland, a plant for spinning cotton will be established in about two years. Meanwhile, however, it will be necessary to import short staple cotton for the textile factory. The Territory now produces essentially high quality, long fibre cotton which commands a good market price and is con-

1/ A somalo is equal to 14 United States cents.

2/ In 1951, 7.5 million square yards of cotton piece goods were imported.
sequently exported. Cotton-growers have been experimenting locally with varieties of short staple cotton both on the Italian concessions and in special plots of the Administration's Department of Agriculture.

Indigenous weavers have long been producing cloth, known as futa Benadir, for local consumption. Formerly, home grown cotton supplied the needs of these weavers, but for some time now imported short staple cotton yarn has been mainly used.\(^1\) Indigenous weaving is essentially a household industry in which women and older children participate. Production and net earnings are low. About 1,000 looms, located principally in Mogadishu, Celib, Merca, Brava and Coriole, turn out about 200,000 futas a year.\(^2\) Except for a few hundred futas which are exported to Ethiopia, Kenya and British Somaliland, the entire output sells locally and appears to cover domestic demand for this type of cloth. In 1951 a futa sold for 10 somalos ($1.40), a price which left little to the weaver above the cost of the material. The cloths are dyed locally, generally by a central dyer working for a group of weavers and using imported dyes.

Precise data on indigenous consumption of textiles are not available. However, calculations of annual per capita available supplies for the years 1950 and 1951, using the quantity of cotton piece goods imported plus the quantity of futas produced in the Territory, indicates that indigenous consumption averages slightly over 7 square yards. This may be compared with consumption levels in other under-developed countries; for example, annual per capita available supplies in Egypt and India in 1949 amounted to 10.6 square yards. It should be noted that over 84 per cent of the cloth used by the indigenous inhabitants of Somaliland is imported. This is important in respect of consumption trends over a significant period of years. Experience has shown, "substantial continuing increase in the consumption of textiles in under-developed countries is likely to be associated with expanded domestic production rather than greater imports."\(^3\)

Oil Mills. Three oil mills, built with Italian capital, are located at Mogadishu, Merca and Villaggio. Since the close of the war these mills have been operating well below capacity; indeed, the mill at Merca, which has a productive capacity of about 10,000 quintals of oil per year, has been inactive the last two years. The reasons given for this situation include (1) the inability to maintain an adequate supply of labour, and (2) the persistent shortages of oilseeds. Nevertheless, these mills are being enlarged and a fourth modern mill is expected to be established at Kismayu.

Production of oilseeds, mainly ground-nuts and sesame seed, has been declining in recent years. However, the present revival of large-scale cotton cultivation should provide substantial quantities of cottonseed for crushing.

\(^1\) There is still some spinning of local cotton in the futa producing centres.

\(^2\) A futa is about 7 yards long. Output per man is estimated at 14 to 21 yards a day, with the former more representative of the average.

<table>
<thead>
<tr>
<th>Industrial firms</th>
<th>No.</th>
<th>Capital Investments (in lire)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building, roads, etc.</td>
<td>60</td>
<td>200,000,000</td>
</tr>
<tr>
<td>Trucking</td>
<td>20</td>
<td>120,000,000</td>
</tr>
<tr>
<td>Mechanic workshops</td>
<td>22</td>
<td>4,000,000</td>
</tr>
<tr>
<td>Beer and ice</td>
<td>7</td>
<td>1,300,000</td>
</tr>
<tr>
<td>Chemical</td>
<td>2</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Milling and paste</td>
<td>10</td>
<td>10,500,000</td>
</tr>
<tr>
<td>Building materials</td>
<td>6</td>
<td>7,600,000</td>
</tr>
<tr>
<td>Wood and furniture</td>
<td>8</td>
<td>2,100,000</td>
</tr>
<tr>
<td>Entertainment</td>
<td>4</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Printing</td>
<td>6</td>
<td>2,500,000</td>
</tr>
<tr>
<td>Tanning</td>
<td>1</td>
<td>500,000</td>
</tr>
<tr>
<td>Electric</td>
<td>2</td>
<td>2,300,000</td>
</tr>
<tr>
<td>Sugar</td>
<td>1</td>
<td>1,400,000</td>
</tr>
<tr>
<td>Incense</td>
<td>1</td>
<td>2,600,000</td>
</tr>
<tr>
<td>Fishing</td>
<td>3</td>
<td>3,500,000</td>
</tr>
<tr>
<td>Salt</td>
<td>3</td>
<td>4,000,000</td>
</tr>
<tr>
<td>Others</td>
<td>25</td>
<td>15,000,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>181</td>
<td><strong>383,500,000</strong></td>
</tr>
</tbody>
</table>
Although oil mill operators have complained of raw material shortages these last years, it is a fact that fairly considerable quantities of oilseeds continue to leave the Territory unprocessed. Foreign trade reports reveal, for example, that net exports of sesame seed and ground-nuts amounted to approximately 21,000 quintals in 1948, 26,000 in 1949, 16,500 in 1950 and 422 in 1951, whereas net exports of groundnut oil and sesame oil in the same years were 3,253 quintals, 131,438 and less than 1, respectively.

There are numerous crude oilseed presses built and used by indigenous farmers throughout the agricultural areas of the Territory. These utilize mainly sesame seed, a crop grown principally on indigenous farms. Surpluses above subsistence need are marketed locally. Reports indicate that a significant quantity of sesame oil is lost owing to the primitive character of the indigenous presses.

Soap. The four soap factories in Somaliland together produce more than 6,500 quintals of various kinds of soap. The most recent official information available\(^1\) asserts that local production meets domestic needs. However, the Territory continues to import significant quantities of soap despite this claim -- 5,793 and 3,820 quintals in 1950 and 1951, respectively. The factories have an estimated production capacity approaching 50,000 quintals of soap per year, indicating that, given certain conditions, home production could easily satisfy all domestic requirements.

The soap made locally consists mainly of coconut oil (80 per cent and upwards), a small portion of animal fat and soda. The soda and coconut oil are entirely imported. The vegetable oils produced in the Territory are said to be too costly for any use other than as elements in the diet, and the difficulties thus far encountered in deodorizing local animal fats prevents their extensive use in soap making. According to official statements, the indigenous population prefers the soap imported from Kenya and Zanzibar to local soap. The Administration has urged local manufacturers to purchase a machine (costing about 50,000 somalos) to refine and deodorize local animal fats for their better utilization in the making of soap.

Tanning and Leather. The tanning and leather industry has experienced only a very limited development although a major economic activity in the Territory is pastoralism, which provides considerable quantities of hides and skins, the raw materials for such an industry. One large and two small tanneries are operating in the Territory. The largest, located in Brava, produces annually about 200 quintals of leather, 100,000 square feet of shoe vamps and linings and some 18,000 pairs of footwear, principally sandals worn by the local police and indigenous troops. The tanneries are described as working well below capacity.

Officials offered a number of reasons for the backwardness of the leather industry in Somaliland. Local production of shoes apparently does not meet consumer standards owing to obsolete equipment, the lack of technical skills of the labour force and incompetent management. Hence, shoes are at present mainly imported from Italy. Moreover, most of the indigenous population goes barefoot; according to the Mission's Expert on Education,

\(^1\) Italy, Ministry of Foreign Affairs, Rapport...1951, op.cit., p. 107.
even in Mogadishu not more than 50 per cent of the school children wear shoes, and the proportion in the rural schools is much smaller.

Fruit Industry. A new Italian enterprise, the Lavorazione Industriale Prodotti Alimentari Somali (L.I.P.A.S.), was established in the Territory in 1951. This concern is now producing fruit jams and juices from local bananas, mangoes, pawpaws, etc., at an annual rate of about 3,500 quintals; the plant's capacity is 10,000 quintals. The products of L.I.P.A.S. are aimed entirely for the export trade. The firm is currently exploring the world market; hence, no evaluation of the enterprise can be made at this time.

3. Fishing Industry

An attempt is being made to revive the fishing and canning industry, which was developed with Italian capital and management before the war. In 1951, three fishery establishments were in operation and a fourth company was scheduled to commence work toward the end of the year. The companies are all located along the northern coast of the Midjertein -- at Bender Cassim, Candala, Abo and Alula. Total production of the three companies in 1951 amounted to only a fraction of the pre-war output achieved by the largest of these companies, the Societa Anonima Pescheria Alula (S.A.P.A., owned by G. Caramelli).

S.A.P.A. began its activities in 1934 and in 1938 acquired a nine-year fishing concession along the coast from Bender Ziada to Dante. Three canneries were erected, employing about 2,500 indigenous workers and a group of skilled Italians; the Italians returned to Italy each year when the fishing season, March-May, ended. In 1938/39, S.A.P.A. produced about 4,630 quintals of canned tunny and 260 quintals of dried fish, all of which was exported to Italy. In 1950/51, this Company's output amounted to 255 quintals of canned fish, 11 quintals of salt tunny, 145 quintals of fish meal and 586 quintals of fresh fish. Since the war only one of their canneries has been re-equipped.

The second company, the Societa Commerciale Industriale Anonima Mijurtinia Settentrionale (S.C.I.A.M.S.), in 1939 obtained a concession to establish a cannery at Bender Cassim. The plant was dismantled during the war, but in 1947 it was re-equipped and resumed operations. In 1950/51, this company produced 344 quintals of canned fish 701 quintals of fresh fish. The third company, Arddie, has thus far been of minor importance in the fishing industry.

The Compagnia Meriodionale di Pesca, a fourth Italian concern which expected to begin its activities late in 1951, plans to operate largely on an experimental basis, combining fishing with research. Two fishing boats equipped with special apparatus will be used for exploration and fishing, the catch to go to S.A.P.A. for canning. A Somali group is said to be organizing another fishing enterprise at Bender Cassim.

Several factors have been limited the development of the fishing industry in the Mijurtein region. Migrations of tunny, for example, have not taken place for the last three years in succession, and there are no past data available indicating whether such failures recur frequently.
Landing facilities are poor in the region and water supplies for human consumption are located at a distance inland from the fishing centres; thus, water is transported in tanks to supply Alula, and Bender Cassim depends on a water spring situated 10 kilometres outside the town. Finally, the supply of labour for canning work is low and indigenous fishermen are not numerous in this rather barren region. During the war many local fishermen sold their boats, thereby reducing the catch available for the canneries. The Administration has been planning to purchase 150 to 200 indigenous-type boats (called uri) and give them to these fishermen. New legislation has been passed to protect indigenous fishing activities; for example, large fishing concerns may not use their fishing boats within 500 kilometres from the shore, where indigenous fishing mainly takes place.

Fishing is viewed as a risky enterprise by the Italians. The industry contributes only slightly to government revenue and its general contribution to the Somali economy is not very large. The fishing concerns pay an annual concession fee based mainly on the area under concession; S.A.P.A., for example, pays 1,000 somalos a year (about $150). The export tax on fish products is 5 per cent of the value of export; thus in 1950, when about 3,602 quintals of dried and tinned fish were exported, valued at slight over 400,000 somalos, the revenue amounted to approximately 20,000 somalos (less than $3,000). Moreover, new firms enjoy income tax exemption for 10 years, and there is some outward flow of profits. Probably the principal benefit of the fishing industry in the Midjurtein lies in the employment it offers to an otherwise quite destitute population.

The Administration recently sponsored the development of commercial fishing in the southern area of Somaliland, particularly around the Bajumi Islands south of Kismayu. There the inhabitants, consisting of mixed Arab and Negroid groups using Swahili as their language, have traditionally fished the waters surrounding the islands for shark, trepang, etc., and collected moth of pearl. Some Bajumi groups combine farming with fishing. The products of the sea are exchanged for cloth, dates and other items. Three Italians, two Bajumi (one is a chief) and one Somali have formed a company to purchase fish, mostly spiny lobster, from Bajumi fishermen for canning and subsequent export. This enterprise has already been activated but at this time it is of minor significance to the economy of Somaliland.

4. Salt Industry

Before the war the marine salt works at Hafun-Hordio (Dante, Midjurtein) was the only large industrial installation in Somaliland other than the sugar mill and other industrial facilities owned by S.A.I.S. It has been defunct since the beginning of World War II, when the plant was partially dismantled and movable parts were shipped out of the country. Nearly 500,000 tons of salt remained at Hordio. In order to remove this stock, investment in transport facilities of an industrial character, among other things, is required. According to official information, efforts to sell this salt on terms which would provide part of the finance needed to re-start operations have not been successful.

The plant cannot be reconstructed on the basis of the pre-war technical installation which necessitated high maintenance costs, including
expenditures for European staff. Accordingly, new plans have been drawn up with a view to reduce costs. In these plans the salt would reach a jetty via a Decauville railway; thence it would be carried by lighter to ships, anchored about 5 miles out. Loading would take place only at certain seasons, and, as a further measure of cost-reduction, a small technical staff would be required. The plant capacity would be cut from 250/300,000 tons pre-war, to 120/150,000 tons.

In the pre-war period the salt works covered about 900 hectares and had an annual productive capacity of some 250,000 tons. Equipment consisted of a cable-way, two electric generating plants, a truck railway (Decauville) and complete harbour installations at Dante, as well as buildings, workshops, offices, storage facilities and other related structures. The salt works are owned by the Societa Anonima Saline Somale, which originally invested 11 million lire in the enterprise and subsequently borrowed an additional 15 million lire. The Istituto Immobiliare Italiano holds a mortgage on the existing supplies of salt to cover a second loan of 3 million lire. According to the Four-Power Commission's investigation of Somaliland, the salt company's last published balance sheet on the year ending 30 June 1939 showed assets of 32.4 million lire. The same report stated that the plant employed 17 Italian administrators, 75 European workmen and technicians and 600-700 indigenous laborers when in full operation. An additional 1,400-1,800 indigenous laborers were employed during the seven-month export season, October-April. The annual wage bill was reported to be 2 million lire for the Italian staff and 1.3 million lire for the indigenous staff.

The salt produced at Hafun is described as being of very high quality and greatly in demand, particularly by Japan, which before the war was the principal purchaser. Smaller quantities went to India. In the period 1932-1934, annual average exports of salt amounted to about 200,000 tons, accounting for approximately one-fifth of the total value of exports. Between 1936 and 1938, annual exports averaged some 170,000 tons. Thus, the export demand seldom approached the production capacity of the salt works. Current plans to revive the industry emphasize the installation of a more modest equipment which would limit output to a more economic level.

There are a number of small electric power plants in Somaliland serving private and public needs. Total power generated is slightly less than 5.7 million kilowatt hours per annum, of which some 4.2 million kwh. are provided by private concerns and about 1.3 million kwh. by the Administration and the Local Mogadish Administration. Somaliland's per capita consumption of electric power averages only 4.5 kwh., which places it among the ranks of the less developed areas of Africa and the World.

S.A.I.S., the largest industrial firm in the country, produces 1 million kwh. annually, while the combined output of eight other concerns is only 635,100 kwhs. The single highest producer of electric power is the private firm in Mogadishu owned by C. de Vincenzi, which has an output of 2.6 million kwh. and serves the municipality of Mogadishu. The sales price of electric power is 12 cents per kwh. or more.

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1/ Exclusive of the power generated by the lighting and pumping plants of the agricultural enterprises operated by thermoelectric or wind power.
5. Minerals

Work undertaken up to the present time has not provided a basis for economic exploitation of metallic minerals or mineral fuels. In addition to saline minerals, the material resources of the Territory include widely distributed limestone, soils suitable for making bricks and tile, granites including marble, alabaster and soapstone. Thirty quarries of relatively small size produce building and road-making materials. High costs of internal transport limit the use of superior materials, such as the hard rock found in certain localities, in road building. The possibilities of establishing a cement plant have recently engaged the interest of private parties. According to the Director of the Office of Mines, technical possibilities for a modern cement industry exist, particularly at Bender Cassim, but the economic feasibility of establishing a plant in view of requirements of imported fuel, costs of marketing, etc., require investigation.

Before 1937 partial geological surveys of a general character were made and, occasionally, searches for specific minerals were undertaken. Thus, a government-sponsored exploration of the northern area was carried out in 1924 in the hope of finding mica, gold and petroleum. In 1929 a company was established in Genoa for exploration of mineral deposits, but the results of its work were meagre as regards metallic minerals, though more fruitful in respect of construction materials.

After 1937 more intensive exploration was carried out by the Compagnia Mineraria (COMINA) of Milan and the Azienda Generale Italiani Petrolli (AGIP) of Rome. Deposits of tin, lead, iron and lignite were found. The geological structure of various areas was examined with a view to possible location of hydro-carbons. This work was interrupted by the war.

The work of exploration for petroleum was in a very preliminary stage when interrupted by the war. Three exploration campaigns from south to north had been undertaken by AGIP. According to information received by the Mission, the company after its third campaign in 1939 proposed to carry out further work in the Midjurtein area. Geological features of the area extending between Daror Valley and the Nogal suggest a possibility of the presence of oil; other areas of the Territory may also be of some interest.1/

The minerals legislation of the Territory has recently been revised in accordance with the provisions of Article 14 of the Trusteeship Agreement. Ordinance No. 13 of 15 August 1951 is designed to encourage exploration and research, under appropriate government controls, and to give reasonable assurance to prospective concessionaires regarding the period allowed for recovery of research expenditures and amortization of capital. Concessions, though temporary, may be granted initially up to a period of 40 years; they are then renewable for two periods of 10 years each. These provisions apply to mineral substances, mineral and thermal waters and sub-soil energy, capable of industrial utilization. An exception is made in the case of quarries,

1/ Reference is made to the Upper Juba area near Dolo, where the A.G.I.P. had made some preliminary investigations. It should be noted that drilling operations are being undertaken in Ethiopia and that a survey party has been active in Kenya, near the Somaliland border.
which are subject to a different set of rules.

6. The Labour Situation

The labour force utilized in the industries of the Territory constitute only a tiny fragment of the total population. At most a few thousand indigenous persons are engaged in such work, the majority in an unskilled capacity. Official reports assert that there are sufficient workers available for the existing industries, but that any substantial development of industry would strain the present supplies of labour. The major obstacles to an appreciable rise in the industrial labour force are the lack of technical skills of the indigenous population and the fact that most of the working population is occupied in pastoral and agricultural subsistence activities.

The labour situation in industry contrasts strikingly with that in agriculture. Employers of agricultural labour constantly complain of the Somali's inability or unwillingness to work steadily. Work is usually paid for on the basis of specific tasks rather than for a fixed number of hours in a day. Thus, the agricultural worker may complete his task in three to five hours and then refuse to take on a second task the same day. In industry, on the other hand, fixed hours are the rule, averaging about 7 to 8 hours per day. Wage-scales in industry are higher than in agriculture. Although the indigenous inhabitants are described as reluctant to engage in agricultural wage-work for various reasons, they are apparently not reluctant to work in industry.

The principal task confronting the Administration, therefore, is not only to encourage the development of industries in the Territory, but to see to it as well that an adequate labour force possessing the required skills is made available in the Territory without diminishing the productive capacity at the agricultural sector of the economy.

E. BALANCE OF PAYMENTS AND EXTERNAL TRADE

1. Balance of payments

Somaliiland has long had an unbroken series of negative trade balances, as shown in Table 3 below. During the period under review exports as a percentage of imports varied from a low of 23 per cent in 1941 and 1944, to a high of 70 per cent in 1948. Since 1948, the gap between imports and exports appears again to be widening.

The Territory has for decades relied on governmental transfers, partly related to budgetary subventions, to sustain its levels of imports and other external payments. Changes in the levels of commodity imports have reflected variations in government expenditures in the Territory, the demands of the non-indigenous and indigenous population for imported goods, and levels of foreign investment. The historical data available lack sufficient detail to permit exact determination of the roles these three factors have played in accounting for variations in imports. However, since

1/ This problem is discussed in the agricultural section above.
the greater part of the indigenous population subsists at a low economic level which limits its demand for imported commodities to a few basic necessities, it is most probable that import variations have been closely related to non-indigenous, particularly Italian, requirements.

An official balance of payments statement for the calendar year 1951 was recently published.\(^1\) The structure of the current account, which is of principal interest, is as follows:

**Table 10. Balance of Payments for the Year 1951**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Merchandise trade</td>
<td></td>
</tr>
<tr>
<td>a. Exports (f.o.b.)</td>
<td>$7,776.7</td>
</tr>
<tr>
<td>b. Imports (c.i.f.)</td>
<td>$13,106.7</td>
</tr>
<tr>
<td>Balance</td>
<td>$(5,330.0)</td>
</tr>
<tr>
<td>2. Other current items</td>
<td></td>
</tr>
<tr>
<td>a. Transport</td>
<td>$(331.7)</td>
</tr>
<tr>
<td>b. Foreign travel</td>
<td>$(117.2)</td>
</tr>
<tr>
<td>c. Investment income</td>
<td>$(114.3)</td>
</tr>
<tr>
<td>d. Workers' remittances(^a)</td>
<td>$(3,609.3)</td>
</tr>
<tr>
<td>e. Miscellaneous</td>
<td>$(670.6)</td>
</tr>
<tr>
<td>Balance</td>
<td>$(4,843.1)</td>
</tr>
<tr>
<td>3. Governmental transfers</td>
<td>$8,277.2</td>
</tr>
<tr>
<td>Balance on current account</td>
<td>$(1,895.9)</td>
</tr>
</tbody>
</table>

\(^a\) According to the Director of the Mogadishu branch of the Bank of Italy, this item should be interpreted as personal remittances, inclusive of some investment income.

The striking feature of the current account is the fact that the net unfavourable balance of merchandise trade (\(-5.3\) million) plus remittances by Italian workers (\(-3.6\) million) is slightly greater than the transfers of the Italian Government (\(8.3\) million). This is particularly significant in that it indicates a potential for placing Somaliland's external financial arrangements on a sounder foundation. As is pointed out below in the section on foreign trade, there are concrete possibilities for a substantial lowering of the unfavourable trade balance. Moreover, the debit created by Italian

\(^1\) Italy, op. cit., p. 262.
workers' remittances is probably abnormally high at this time, owing to the very recent return of Italian administration in the Territory, and to some extent temporary.

During the year under review the trade and current account balances by currency area were as follows:

Table 11. Trade and Current Account Balances by Currency Area, 1951
(In thousands of U.S. dollars)

<table>
<thead>
<tr>
<th></th>
<th>Lira</th>
<th>Dollar</th>
<th>Sterling</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports (f.o.b.)</td>
<td>6,757.8</td>
<td>243.0</td>
<td>775.8</td>
<td>-</td>
</tr>
<tr>
<td>Imports (C.I.F.)</td>
<td>6,609.7</td>
<td>111.1</td>
<td>6,383.2</td>
<td>3.3</td>
</tr>
<tr>
<td>Trade Balance</td>
<td>148.7</td>
<td>131.9</td>
<td>-5,607.4</td>
<td>-3.3</td>
</tr>
<tr>
<td>Current Account Balance</td>
<td>3,842.0</td>
<td>240.3</td>
<td>-5,974.0</td>
<td>-4.2</td>
</tr>
</tbody>
</table>

---

Sterling, rupee, East African shilling.

The over-all deficit in the merchandise account arose out of trade with the sterling area. Trade with Italy was balanced, and there was a small dollar surplus. During this period nearly 87 per cent of exports went to Italy, and slightly over 50 per cent of imports were paid for in lire. Corresponding figures for the sterling area are: exports, 10 per cent; imports, nearly 49 per cent. Thus imports paid for in sterling almost equalled imports from Italy in the supply of the Territory. Italy's dominant role in the export trade of the Territory is explained by the fact that it takes practically all of the bananas and raw cotton exported, items which together accounted for about 51 per cent of the total value of exports in 1951.

The current account deficit of US$0.9 million was covered up to 64 per cent by the utilization of a part of the active balance as of 1 January 1951, and the remainder by payment of bank notes by the Cassa per la Circolazione Monetaria della Somalia and the use of accounts held by exporters of bananas, etc.

---

1/ Comparable figures for the pre-war period, 1932-1934, show that an average of 67 per cent of the Territory's exports went to Italy and 13 per cent to the sterling area, while imports were about 50 per cent and 34 per cent, respectively.

2/ See Italy, op. cit., p. 64.
2. External Trade

Total external trade in 1951 amounted to over $17.5 million,\(^1\) compared with $11.1 million in 1950 and an average of $5.8 million in the pre-war period 1932-1934. Of the 1951 trade, imports totalled $13.4 million and exports, $4.2 million. During the war years, 1941-1945, the Territory's total trade declined to an average of less than $2.7 million, but recovery set in rapidly after the cessation of hostilities and by 1947, average pre-war levels had been surpassed. Import and export value trends individually approximated the trend of total trade. Table 12 gives the relevant data.

Table 12 does not show the effects of price fluctuations and variations in the exchange rates of currencies in use during the period under review. Quantitative data, though incomplete, indicate that the trend in the volume of trade approximated fairly closely that of value, except for a few products.\(^2\) A notable exception is salt, the production of which ceased entirely when World War II began owing to the dismantling of the salt works and the removal of much of the plant from the Territory.

Analysis of Somaliland's foreign trade demonstrates clearly the Territory's heavy dependence upon a few primary agricultural and livestock products for its exports, and upon foreign sources for such basic necessities as foodstuffs and textiles as well as the largest part of the manufactured products used by the population.

3. Exports

Table 13 presents the composition of exports in selected pre-war and post-war years in terms of quantities and percentages of total export value.

---

\(1\) In this section current U.S. dollars are used throughout in order to avoid the confusion consequent upon dealing with varying exchange values of the lira and the East African shilling. The exchange rates used for conversion are given in footnote a, Table 3.

\(2\) See Tables 18 - 21 for detailed data on trade, in quantities and values.

\(3\) It should be noted that export values in the trade tables differ considerably from the value given in the balance of merchandise trade statement above. According to an official source, "for reasons of expediency, many commodities are valued on a price basis which is changed from time to time. This method of calculating the 'taxable value' of certain commodities yields very different values from the actual f.o.b. values. Consequently, the deficit in the balance of merchandise trade given in the trade tables is not exact; it is more correct to state that the total value of exports was between 50 and 55 million somalos in 1951." See Italy, op. cit., p. 264. The Balance of Payments statement has corrected the export value figure to be more in line with the true values of the exports.
Table 12. Foreign Trade of Somaliland

(In thousands of U.S. current dollars a/)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Trade</th>
<th>Imports</th>
<th>Exports</th>
<th>Relative (1932-34=100)</th>
<th>Trade Deficit</th>
<th>Exports as % of Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Trade</td>
<td>Imports</td>
<td>Exports</td>
<td>Total Trade</td>
<td>Imp. Exp.</td>
<td></td>
</tr>
<tr>
<td>1932</td>
<td>4,088</td>
<td>2,853</td>
<td>1,235</td>
<td>70</td>
<td>73  64</td>
<td>- 1,618</td>
</tr>
<tr>
<td>1933</td>
<td>5,703</td>
<td>3,763</td>
<td>1,940</td>
<td>98</td>
<td>97  101</td>
<td>- 1,822</td>
</tr>
<tr>
<td>1934</td>
<td>7,663</td>
<td>5,064</td>
<td>2,600</td>
<td>132</td>
<td>130 135</td>
<td>- 2,464</td>
</tr>
<tr>
<td>1941</td>
<td>688</td>
<td>561</td>
<td>127</td>
<td>12</td>
<td>14   7</td>
<td>- 434</td>
</tr>
<tr>
<td>1942</td>
<td>1,820</td>
<td>1,375</td>
<td>445</td>
<td>31</td>
<td>35   23</td>
<td>- 930</td>
</tr>
<tr>
<td>1943</td>
<td>2,986</td>
<td>2,333</td>
<td>654</td>
<td>51</td>
<td>60   34</td>
<td>- 1,679</td>
</tr>
<tr>
<td>1944</td>
<td>3,735</td>
<td>3,037</td>
<td>698</td>
<td>64</td>
<td>78   36</td>
<td>- 2,339</td>
</tr>
<tr>
<td>1945</td>
<td>4,032</td>
<td>3,104</td>
<td>928</td>
<td>69</td>
<td>80   48</td>
<td>- 2,176</td>
</tr>
<tr>
<td>1946</td>
<td>5,743</td>
<td>3,962</td>
<td>1,781</td>
<td>99</td>
<td>102  93</td>
<td>- 2,181</td>
</tr>
<tr>
<td>1947</td>
<td>7,260</td>
<td>4,149</td>
<td>2,791</td>
<td>125</td>
<td>115  145</td>
<td>- 1,698</td>
</tr>
<tr>
<td>1948</td>
<td>7,633</td>
<td>4,187</td>
<td>3,145</td>
<td>131</td>
<td>115  163</td>
<td>- 1,342</td>
</tr>
<tr>
<td>1949</td>
<td>8,427</td>
<td>5,141</td>
<td>3,286</td>
<td>146</td>
<td>132  171</td>
<td>- 1,855</td>
</tr>
<tr>
<td>1950</td>
<td>11,144</td>
<td>7,607</td>
<td>3,537</td>
<td>192</td>
<td>195  184</td>
<td>- 4,070</td>
</tr>
<tr>
<td>1951</td>
<td>17,550</td>
<td>13,354</td>
<td>4,196</td>
<td>302</td>
<td>343  218</td>
<td>- 9,158</td>
</tr>
</tbody>
</table>


a/ For 1932-1934, exchange rates used were 5.136, 6.414, and 8.554 U.S. cents per lira, respectively; for 1941-September 1949, rate used was 20.15 U.S. cents per E.A. shilling; from October 1949 to date, the rate of exchange of British currency and Somaliland somalos was 14 U.S. cents per shilling and per somalo.

Before the war, the four leading exports -- hides and skins, bananas, raw cotton and salt -- accounted for an average of nearly four-fifths of the total value of exports. In 1951, these products represented 78 per cent of total export value, though production and export of salt was practically nil. Hence, there has been virtually no change in the composition of exports in respect of the principal items. However, among the minor items certain striking shifts have occurred. Between 1948 and 1950, for example, there were relatively large exports of grain (durra and maize) and none in the pre-war period, 1932-1934; indeed, in the latter period imports of grain were quite heavy. Production levels in these periods did not vary sufficiently to account for this reversal, as shown in the section on agriculture above. In 1951, exports of grain declined considerably, in part due to the prohibition of maize exports decreed in that year by the Administration. Exports of ghee and
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(In thousands of U.S. current dollars a)

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<th>Imports</th>
<th>Exports</th>
<th>Relatives (1932-34=100)</th>
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<tbody>
<tr>
<td></td>
<td>Total Trade</td>
<td></td>
<td></td>
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<td>97</td>
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<td>5,064</td>
<td>2,600</td>
<td>132</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>1941</td>
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<td>14</td>
</tr>
<tr>
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<td>1,377</td>
<td>445</td>
<td>31</td>
<td>35</td>
</tr>
<tr>
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<td>2,333</td>
<td>654</td>
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<td>60</td>
</tr>
<tr>
<td></td>
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<td>3,735</td>
<td>3,037</td>
<td>698</td>
<td>64</td>
<td>78</td>
</tr>
<tr>
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<td>1945</td>
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<td>928</td>
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<td>80</td>
</tr>
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<td></td>
<td>1946</td>
<td>5,743</td>
<td>3,962</td>
<td>1,781</td>
<td>99</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>1947</td>
<td>7,280</td>
<td>4,489</td>
<td>2,791</td>
<td>125</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>1948</td>
<td>7,633</td>
<td>4,487</td>
<td>3,145</td>
<td>131</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>1949</td>
<td>8,427</td>
<td>5,141</td>
<td>3,286</td>
<td>146</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>1950</td>
<td>11,144</td>
<td>7,607</td>
<td>3,537</td>
<td>192</td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>1951</td>
<td>17,550</td>
<td>13,354</td>
<td>4,196</td>
<td>302</td>
<td>343</td>
</tr>
</tbody>
</table>


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camel fat in the post-war period have been substantially greater than pre-war levels.

Analysis of the composition of exports by productive source shows the comparative roles played by the indigenous population and the Italian inhabitants in the export trade. Exports of livestock and livestock products, which originate exclusively from indigenous production, accounted for an average of about 41 per cent of the total value of exports in the period 1948-1951 (49.6 per cent in 1948 and 32.1 per cent in 1951), compared with approximately 25 per cent pre-war.

Table 13. Exports of Principal Commodities

<table>
<thead>
<tr>
<th>Commodity</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. In metric tons:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hides and skins</td>
<td>1,585</td>
<td>2,116</td>
<td>1,694</td>
<td>1,852</td>
<td>1,831</td>
<td>2,142</td>
<td>1,555</td>
</tr>
<tr>
<td>Bananas</td>
<td>5,836</td>
<td>11,256</td>
<td>14,422</td>
<td>1,411</td>
<td>5,081</td>
<td>16,999</td>
<td>25,181</td>
</tr>
<tr>
<td>Cotton, raw</td>
<td>1,214</td>
<td>728</td>
<td>739</td>
<td>165</td>
<td>167</td>
<td>382</td>
<td>671</td>
</tr>
<tr>
<td>Salt</td>
<td>159,120</td>
<td>216,356</td>
<td>230,034</td>
<td>1,877</td>
<td>3,529</td>
<td>2,018</td>
<td>1,228</td>
</tr>
<tr>
<td>Sugar</td>
<td>2,035</td>
<td>1,992</td>
<td>2,225</td>
<td>312</td>
<td>166</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Incense, myrrh and aromatic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>woods</td>
<td>880</td>
<td>775</td>
<td>347</td>
<td>926</td>
<td>883</td>
<td>678</td>
<td></td>
</tr>
<tr>
<td>Ghee</td>
<td>135</td>
<td>24</td>
<td>21</td>
<td>795</td>
<td>576</td>
<td>383</td>
<td>284</td>
</tr>
<tr>
<td>Dried and tinned fish</td>
<td>472</td>
<td>589</td>
<td>340</td>
<td>239</td>
<td>232</td>
<td>300</td>
<td>258</td>
</tr>
<tr>
<td>Sesame seeds</td>
<td>3</td>
<td>2,045</td>
<td>223</td>
<td>946</td>
<td>1,905</td>
<td>1,607</td>
<td></td>
</tr>
<tr>
<td>Ground-nuts</td>
<td></td>
<td>317</td>
<td>349</td>
<td>1,163</td>
<td>714</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Durra</td>
<td></td>
<td></td>
<td></td>
<td>729</td>
<td>5,081</td>
<td>754</td>
<td>15</td>
</tr>
<tr>
<td>Maize</td>
<td></td>
<td></td>
<td></td>
<td>665</td>
<td>521</td>
<td>375</td>
<td>1</td>
</tr>
<tr>
<td>Camel fat</td>
<td>10</td>
<td>11</td>
<td>16</td>
<td>495</td>
<td>151</td>
<td>158</td>
<td>133</td>
</tr>
</tbody>
</table>

B. Percentage of total export value:

<table>
<thead>
<tr>
<th>Commodity</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hides and skins</td>
<td>24.7</td>
<td>19.0</td>
<td>17.8</td>
<td>28.2</td>
<td>28.8</td>
<td>30.3</td>
<td>26.0</td>
</tr>
<tr>
<td>Bananas</td>
<td>18.7</td>
<td>33.4</td>
<td>38.5</td>
<td>1.4</td>
<td>1.1</td>
<td>26.9</td>
<td>33.1</td>
</tr>
<tr>
<td>Cotton, raw</td>
<td>17.7</td>
<td>8.4</td>
<td>7.5</td>
<td>1.7</td>
<td>2.3</td>
<td>8.5</td>
<td>17.2</td>
</tr>
<tr>
<td>Salt</td>
<td>16.8</td>
<td>17.0</td>
<td>15.0</td>
<td>0.5</td>
<td>0.7</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Sugar</td>
<td>4.2</td>
<td>3.3</td>
<td>5.1</td>
<td>2.1</td>
<td>1.2</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Incense, myrrh and aromatic</td>
<td>3.8</td>
<td>2.2</td>
<td>1.9</td>
<td>5.6</td>
<td>3.9</td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
<td>woods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ghee</td>
<td>2.1</td>
<td>0.4</td>
<td>0.3</td>
<td>14.8</td>
<td>11.2</td>
<td>5.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Dried and tinned fish</td>
<td>1.1</td>
<td>1.0</td>
<td>0.8</td>
<td>1.7</td>
<td>2.4</td>
<td>1.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Sesame seed</td>
<td></td>
<td>6.2</td>
<td>0.7</td>
<td>6.5</td>
<td>9.3</td>
<td>6.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Ground-nuts</td>
<td></td>
<td>0.6</td>
<td>0.7</td>
<td>6.7</td>
<td>3.8</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Durra</td>
<td></td>
<td></td>
<td>1.1</td>
<td>6.3</td>
<td>0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maize</td>
<td></td>
<td></td>
<td>0.8</td>
<td>6.5</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camel fat</td>
<td></td>
<td></td>
<td>5.9</td>
<td>1.6</td>
<td>1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>10.9</td>
<td>8.5</td>
<td>10.7</td>
<td>22.5</td>
<td>16.6</td>
<td>15.7</td>
<td>13.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

1/ Including live animals, hides and skins, ghee, camel fat and animal bones.
Indigenous agriculture, on the other hand, has contributed little to the export trade of the Territory, primarily because it is devoted to the cultivation of food crops for subsistence and the internal market. Before the war exports of indigenous agricultural products, excluding sesame, were practically nil. In the period 1948-1950, however, these exports, including sesame seed, accounted for an average of over 11 per cent of total export value. The proportion fell to less than 1 per cent in 1951. It should be observed that cotton exports have not been included among indigenous agricultural exports. Cotton production was almost exclusively the special province of Italian concessionaire agriculture before the war, but since 1949, when relatively large-scale cultivation was revived, much of the cotton produced has been grown by indigenous farmers on their own land under co-participation agreements with the Italians. There is no way of knowing what proportion of the raw cotton exported originates in indigenous production.

Non-indigenous agriculture, principally Italian, has concentrated on three commercial crops -- bananas, cotton and sugar. In 1932-34, these products accounted for an average of almost 46 per cent of total exports by value. During the war the cultivation of crops for export was virtually halted, and the reduced Italian agricultural group shifted to growing food crops required to meet domestic needs. Sugar production, which does not suffice for local consumption demands, no longer holds any significant role in the export trade; indeed, in 1951 over 33,000 quintals were imported and exports of sugar were prohibited. Italian agriculturists again began to expand commercial crop cultivation in 1949, with the greatest emphasis being placed on the production of bananas. Banana exports in 1951 amounted to over 25 thousand metric tons, or more than double average per-war levels.

Practically all the bananas exported from Somaliland go to Italy under favored, monopoly-purchase conditions which guarantee the Italian concessionaires sales of fixed quantities at prices well above world market rates. In 1951, this item accounted for nearly 34 per cent of the total value of exports from the Territory.

4. Imports

Table 14 presents the percentage distribution of imports in terms of commodity classes. The data show Somaliland's dependence upon foreign sources for basic necessities, such as foodstuffs and textiles, and for most manufactured products used in the Territory.

Food stuffs and textiles, mainly cotton piece goods for the indigenous population, are the major import items, together representing an average of

1/ Durra, maize, sesame seed and beans.

2/ Sesame seed is excluded from the pre-war calculation because it was a period of heavy imports, a considerable part of which was in turn exported. In the post-war period, imports of sesame seed were negligible or nil, and production was almost entirely by indigenous farmers; hence, the item is included among indigenous exports.

3/ Details on the banana trade are given below in the report of the Mission's Agricultural Expert.
Table 14. Percentage Distribution of Imports of Principal Commodities by Classes

<table>
<thead>
<tr>
<th>Commodity</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food stuffs</td>
<td>24.4</td>
<td>31.4</td>
<td>24.0</td>
<td>19.0</td>
<td>25.1</td>
<td>30.5</td>
<td>32.0</td>
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<td>Textiles (cloth and yarns)</td>
<td>26.5</td>
<td>16.8</td>
<td>21.1</td>
<td>47.8</td>
<td>21.0</td>
<td>23.5</td>
<td>19.1</td>
</tr>
<tr>
<td>Motor vehicles and accessories</td>
<td>2.9</td>
<td>5.7</td>
<td>8.3</td>
<td>3.9</td>
<td>5.7</td>
<td>5.3</td>
<td>6.4</td>
</tr>
<tr>
<td>Agricultural machinery and parts</td>
<td>3.2</td>
<td>3.2</td>
<td>2.3</td>
<td>0.5</td>
<td>0.9</td>
<td>1.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Industrial machinery</td>
<td>2.8</td>
<td>2.8</td>
<td>4.8</td>
<td>1.2</td>
<td>2.6</td>
<td>3.6</td>
<td>6.1</td>
</tr>
<tr>
<td>Fuels and lubricants</td>
<td>8.7</td>
<td>6.5</td>
<td>7.3</td>
<td>10.4</td>
<td>13.2</td>
<td>9.8</td>
<td>8.1</td>
</tr>
<tr>
<td>Chemicals and drugs</td>
<td>2.3</td>
<td>2.5</td>
<td>2.8</td>
<td>1.4</td>
<td>1.0</td>
<td>2.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Soap, all types</td>
<td>1.2</td>
<td>1.1</td>
<td>1.2</td>
<td>2.9</td>
<td>2.0</td>
<td>1.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Building materials</td>
<td>3.6</td>
<td>5.0</td>
<td>4.6</td>
<td>0.4</td>
<td>0.7</td>
<td>1.6</td>
<td>2.4</td>
</tr>
<tr>
<td>Tobacco</td>
<td>1.1</td>
<td>0.8</td>
<td>0.9</td>
<td>3.0</td>
<td>2.9</td>
<td>3.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Paper, all kinds</td>
<td>0.3</td>
<td>0.5</td>
<td>0.6</td>
<td>0.4</td>
<td>0.6</td>
<td>2.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Others</td>
<td>23.0</td>
<td>23.7</td>
<td>22.1</td>
<td>9.1</td>
<td>24.3</td>
<td>14.0</td>
<td>13.3</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

54.5 per cent of the total value of imports in the period 1948-1951. The proportion was about 48 per cent in the pre-war period. Imports of productive capital equipment, chiefly machinery and parts and construction materials, have been comparatively minor items in the Territory's import trade. Before the war, these imports averaged nearly 11 per cent of total import value, and it was not until 1951 that the Territory once more achieved this level of imports. The largest part of such imports went into Italian economic enterprises in the pre-war period; specifically, they were used to develop irrigated agriculture for the growing of commercial crops, to establish the salt works and fish canneries in northern Somaliland, and to construct railway and road facilities to service these various enterprises. Current capital goods imports are being devoted principally to the rehabilitation of irrigation works and transport facilities.

Analysis of the composition of foodstuffs imported into the Territory reveals that a significant portion consists of items consumed principally by the non-indigenous section of the population. As noted in Table 15 food-stuffs imported largely for non-indigenous consumption average over 26 per cent of the
Table 15. Imports of Foodstuffs by Consumption Groups

(As per cent of total value of imported foodstuffs)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigenous:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dates, durra, maize, ghee,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>camel fat</td>
<td>14.0</td>
<td>28.7</td>
<td>11.2</td>
<td>12.1</td>
<td>16.1</td>
<td>6.4</td>
<td>7.1</td>
</tr>
</tbody>
</table>

| Non-indigenous:           |      |      |      |      |      |      |      |
| Butter, macaroni, fresh   |      |      |      |      |      |      |      |
| and preserved fruits      |      |      |      |      |      |      |      |
| and vegetables, beer,     |      |      |      |      |      |      |      |
| wine, spirits, cheese,    |      |      |      |      |      |      |      |
| fish, packed meats,       |      |      |      |      |      |      |      |
| edible oils, wheat flour, |      |      |      |      |      |      |      |
| wheat                     | 23.1 | 23.9 | 31.9 | 45.2 | 39.1 | 47.0 | 41.6 |

| Mixed:                    |      |      |      |      |      |      |      |
| Rice, tea, coffee, sugar, |      |      |      |      |      |      |      |
| spices, and other         | 62.8 | 47.4 | 56.9 | 42.7 | 44.8 | 46.6 | 51.3 |

\[a/\] Includes Italians, Arabs, Indians and Pakistanis.

\[b/\] All sectors of the population consume these foods to some extent.

The indigenous inhabitants consume a limited number of staple foods, including milk and milk products, meat (occasionally), grain, beans, dates and small quantities of tea, coffee and sugar. Domestic production provides all of these items except dates,1/ tea and coffee. In times of severe drought, however, it has been necessary to import grain. It should be observed that the nutritional level of the indigenous population has been described as generally low, and, consequently, that evidence of malnutrition is visible in many parts of the Territory. Local output of foodstuffs, particularly agricultural foods, does not apparently meet the needs of the indigenous population in terms of acceptable standards of nutrition. Nevertheless, while there were fairly heavy net imports of grain and oilseeds before the war and exports of ghee and camel fat were small, the period 1948-1950 was one of heavy net exports of grain, oilseeds, ghee and camel fat. Moreover, in 1950 and 1951, there were substantial exports of beans -- 2,614 and 2,127 quintals, respectively -- for the first time in decades. Production levels in the period under consideration varied only insignificantly for the products mentioned.

It is probably true that imported foodstuffs, such as wheat products, are

1/ Small quantities of dates are produced in the northern part of the Territory.
increasingly entering into the diet of urbanized indigenous persons. However, since these individuals represent only a small fraction of the total indigenous population, which continues to live largely outside the urban centres, it is unlikely that there has been any significant change in the traditional preferences for local foods in the brief period since the war.

Exact determination of the consumption of imported commodities according to population group -- i.e., indigenous and non-indigenous -- is not possible. It has been noted above, however, that a large and perhaps the greater part of total imports enters into non-indigenous consumption, particularly Italian. If this is true, it follows that the Territory's deficit in merchandise trade is to a considerable extent due to non-indigenous import demands rather than indigenous requirements. This may have an important bearing on the trade situation after 1960, when Somaliland will have become an independent state. Some light may be shed on this question by indicating the relationship between imports destined exclusively for indigenous consumption and exports originating entirely from indigenous production. Table 16 presents such data for the principal trade commodities. It should be noted that the data are not exhaustive and are intended to show rather approximately the indigenous import-export situation.

Thus, exports of indigenous-produced commodities in the period 1932-1934 averaged nearly three-fifths of the value of indigenous-consumed commodities. This proportion rose steadily after the war and, in 1948, imports and exports were almost balanced. The year 1949 is somewhat askew owing to an abnormally low level of textile imports. In 1950, however, exports of indigenous commodities surpassed the value of imports used by this section of the population, at least in respect of the commodities listed. A decline in indigenous exports was experienced in 1951. However, if the value of raw cotton exports which derived from indigenous production could be added to the indigenous export figures of 1950 and 1951, the proportion would rise considerably in favor of the export side. Since 1948, apparently, the indigenous sector of the economy has been able to produce sufficient quantities of export products to pay for its own principal import needs.

5. Direction of Trade

Table 17 shows the geographical distribution of Somaliland's trade on a percentage basis for the years available.

Before the war Italy absorbed about two-thirds of Somaliland's exports and supplied approximately one-half of the Territory's imports. In 1951, Italy had recovered its pre-war position in respect of the Territory's import trade, accounting for over 52 per cent, and substantially surpassed pre-war levels as a market for products from the Territory. The principal products exported to Italy have been bananas and raw cotton, while Italy has supplied machinery, vehicles and their parts, construction materials, drugs and medicines, chemicals and fertilizers, tobacco and paper products.

In the pre-war period, Japan, because of its heavy purchases of salt, provided the second largest market for Somaliland's export products; more than 13 per cent of average value of exports went to Japan in 1932-1934. Trade with Japan has been negligible since salt production ceased in the Territory.
Table 16. **Trade in Indigenously-produced and Indigenously-consumed Products**  
(In thousands of U.S. dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports</th>
<th>Exports</th>
<th>Exports as percentage of Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1932</td>
<td>771.3</td>
<td>468.9</td>
<td>60.8</td>
</tr>
<tr>
<td>1933</td>
<td>876.0</td>
<td>504.7</td>
<td>57.6</td>
</tr>
<tr>
<td>1934</td>
<td>1,087.6</td>
<td>604.1</td>
<td>55.5</td>
</tr>
<tr>
<td>1946</td>
<td>2,002.5</td>
<td>1,385.6</td>
<td>69.2</td>
</tr>
<tr>
<td>1947</td>
<td>2,329.1</td>
<td>1,916.2</td>
<td>82.3</td>
</tr>
<tr>
<td>1948</td>
<td>2,115.2</td>
<td>2,070.7</td>
<td>97.9</td>
</tr>
<tr>
<td>1949</td>
<td>1,169.6c</td>
<td>2,187.1</td>
<td>187.0</td>
</tr>
<tr>
<td>1950</td>
<td>1,644.7</td>
<td>1,772.5</td>
<td>107.8</td>
</tr>
<tr>
<td>1951</td>
<td>2,110.8</td>
<td>1,583.0</td>
<td>75.0</td>
</tr>
</tbody>
</table>

**a/** Imports include: indigenous foodstuffs (durra, maize and dates); cotton, flax and hemp piece goods; yarns.

**b/** Exports include: indigenous agricultural products (excluding sesame seed in 1932-34, and including sesame seed in 1946-1951); live animals and animal products; dried fish; indigenous salt; ivory; shells; mother-of-pearl; mats; incense, myrrh and aromatic woods; gum arabic. Cotton exports are excluded.

**c/** Imports of cotton piece goods were abnormally low in this year.

Much of the Territory's trade has been with Aden, a transit port in the sterling currency area. Trade with adjacent and nearby African countries -- mainly British East Africa, Ethiopia and Egypt -- has in total been fairly important, accounting for about 25 per cent of the Territory's imports and taking nearly 10 per cent of exports; in the pre-war period the respective proportions were 61 and 5 per cent. Trade with Europe, excluding Italy, has in general been negligible. The United States, which supplied an average of 5 per cent of total import value in 1932-1934 and received about 3 per cent of the Territory's exports in the same years, has practically disappeared from the Trade accounts of Somaliland.
<table>
<thead>
<tr>
<th></th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1949</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Imports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>47.7</td>
<td>44.7</td>
<td>55.5</td>
<td>15.8</td>
<td>52.2</td>
</tr>
<tr>
<td>Aden</td>
<td>20.6</td>
<td>16.8</td>
<td>8.5</td>
<td>0.4</td>
<td>17.8</td>
</tr>
<tr>
<td>Kenya and Uganda</td>
<td>7.2</td>
<td>16.4</td>
<td>7.4</td>
<td>22.8</td>
<td>20.6</td>
</tr>
<tr>
<td>Egypt</td>
<td>5.1</td>
<td>2.2</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S.A.</td>
<td>4.0</td>
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<td>6.7</td>
<td></td>
<td></td>
</tr>
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<td>India</td>
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<td>0.6</td>
<td>5.5</td>
<td>28.1</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
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<td>1.3</td>
<td>22.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Arabia</td>
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<td>0.7</td>
<td>2.1</td>
<td>1.0</td>
</tr>
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<td>Ethiopia</td>
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</tr>
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<td>Eritrea</td>
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<td>1.9</td>
<td>0.6</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>Zanzibar</td>
<td>1.9</td>
<td>1.4</td>
<td>0.5</td>
<td></td>
<td>1.5</td>
</tr>
<tr>
<td>British Somaliland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.8</td>
</tr>
<tr>
<td>Others</td>
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<td>9.3</td>
<td>10.3</td>
<td>3.0</td>
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<td>100.0</td>
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<td><strong>Exports</strong></td>
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<td>Italy</td>
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<td>75.2</td>
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<td>4.6</td>
<td>29.6</td>
<td>10.4</td>
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<td>Japan</td>
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<td>15.4</td>
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<td>2.2</td>
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<tr>
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<td>1.5</td>
<td>0.4</td>
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<td>1.5</td>
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<td>3.9</td>
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<td>0.4</td>
<td>1.4</td>
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<td>2.2</td>
</tr>
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<td>Ethiopia</td>
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<td></td>
<td></td>
<td></td>
<td>4.9</td>
</tr>
<tr>
<td>British Somaliland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.3</td>
</tr>
<tr>
<td>Others</td>
<td>2.8</td>
<td>2.6</td>
<td>1.9</td>
<td>0.4</td>
<td>3.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

a/ Kenya only.
<table>
<thead>
<tr>
<th>COMMODITY</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>%</td>
<td>Value</td>
<td>%</td>
<td>Value</td>
<td>%</td>
<td>Value</td>
</tr>
<tr>
<td></td>
<td>of total</td>
<td></td>
<td>of total</td>
<td></td>
<td>of total</td>
<td></td>
<td>of total</td>
</tr>
<tr>
<td>European Butter</td>
<td>5,964</td>
<td>0.2</td>
<td>5,747</td>
<td>0.2</td>
<td>8,933</td>
<td>0.7</td>
<td>-</td>
</tr>
<tr>
<td>Cheese, meat, fish</td>
<td>16,920</td>
<td>0.6</td>
<td>25,965</td>
<td>0.7</td>
<td>33,952</td>
<td>0.7</td>
<td>46,706</td>
</tr>
<tr>
<td>Wheat</td>
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<td>1.4</td>
<td>207,440</td>
<td>5.5</td>
<td>21,015</td>
<td>0.4</td>
<td>6,284</td>
</tr>
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<td>Rice</td>
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<td>1.1</td>
<td>188,564</td>
<td>4.9</td>
<td>9,700</td>
<td>0.2</td>
<td>12,727</td>
</tr>
<tr>
<td>Flour</td>
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<td>22,984</td>
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<td>81,935</td>
<td>1.6</td>
<td>59,673</td>
</tr>
<tr>
<td>Other grains</td>
<td>-</td>
<td>-</td>
<td>134</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>2,907</td>
</tr>
<tr>
<td>Wheat flour</td>
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<td>1.9</td>
<td>103,621</td>
<td>2.8</td>
<td>156,557</td>
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<tr>
<td>Other fruits and vegetables</td>
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<td>0.8</td>
<td>35,510</td>
<td>0.9</td>
<td>33,114</td>
<td>0.7</td>
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<td>5,910</td>
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<td>13,943</td>
<td>0.4</td>
<td>19,571</td>
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<td>Sugar</td>
<td>141,032</td>
<td>4.9</td>
<td>191,979</td>
<td>5.1</td>
<td>197,315</td>
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<tr>
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<tr>
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<td>2,234</td>
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<td>2,762</td>
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<td>1.1</td>
<td>86,167</td>
<td>1.7</td>
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<td>26,354</td>
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<td>26,680</td>
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<td>81,237</td>
<td>2.2</td>
<td>96,882</td>
<td>1.9</td>
<td>68,128</td>
</tr>
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<td>Alcoholics (wine, beer, spirits)</td>
<td>59,077</td>
<td>2.1</td>
<td>201,906</td>
<td>2.1</td>
<td>100,035</td>
<td>2.0</td>
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<td>1,795</td>
<td>0.1</td>
<td>2,771</td>
<td>0.1</td>
<td>12,723</td>
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<td>-</td>
<td>44,533</td>
<td>0.9</td>
<td>106,544</td>
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<td>292,559</td>
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<td>57,332</td>
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<td>305,150</td>
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<td>283,758</td>
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<td>64,099</td>
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<td>-</td>
<td>-</td>
<td>1,961</td>
<td>-</td>
<td>2,282</td>
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<td>60,799</td>
<td>1.6</td>
<td>123,841</td>
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<td>44,500</td>
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<td>128,321</td>
<td>3.4</td>
<td>185,577</td>
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<td>61,571</td>
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<td>Fuel oil</td>
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<td>29,657</td>
<td>0.7</td>
<td>28,082</td>
<td>0.6</td>
<td>176,354</td>
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<td>Lubricating oil</td>
<td>35,825</td>
<td>1.3</td>
<td>35,905</td>
<td>0.9</td>
<td>63,125</td>
<td>1.2</td>
<td>162,303</td>
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<td>27,694</td>
<td>0.6</td>
<td>27,695</td>
<td>0.5</td>
<td>3,639</td>
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<td>Coconut oil</td>
<td>-</td>
<td>-</td>
<td>39,906</td>
<td>-</td>
<td>16,422</td>
<td>-</td>
<td>15,796</td>
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<td>Cotton, hemp, flax, cocoons</td>
<td>66,023</td>
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<td>93,212</td>
<td>2.5</td>
<td>143,327</td>
<td>2.8</td>
<td>65,966</td>
</tr>
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<td>Soap, all kinds</td>
<td>56,505</td>
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<td>33,133</td>
<td>0.9</td>
<td>55,560</td>
<td>1.1</td>
<td>203,134</td>
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<td>Tyres and paper products</td>
<td>46,044</td>
<td>1.5</td>
<td>32,082</td>
<td>0.8</td>
<td>19,761</td>
<td>0.4</td>
<td>17,163</td>
</tr>
<tr>
<td>Cotton, flax, hemp, cocoons</td>
<td>46,044</td>
<td>1.7</td>
<td>32,082</td>
<td>0.8</td>
<td>19,761</td>
<td>0.4</td>
<td>17,163</td>
</tr>
<tr>
<td>Chemical products of all kinds</td>
<td>58,219</td>
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<td>39,921</td>
<td>1.1</td>
<td>60,982</td>
<td>1.2</td>
<td>122,849</td>
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<tr>
<td>Other machinery</td>
<td>10,075</td>
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<td>17,850</td>
<td>0.1</td>
<td>120,736</td>
<td>2.6</td>
<td>201,771</td>
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<tr>
<td>Electrical materials</td>
<td>65,813</td>
<td>2.3</td>
<td>98,727</td>
<td>2.6</td>
<td>147,474</td>
<td>2.9</td>
<td>17,984</td>
</tr>
<tr>
<td>Total Imports</td>
<td>2,882,890</td>
<td>100.0</td>
<td>5,762,618</td>
<td>100.0</td>
<td>5,063,511</td>
<td>100.0</td>
<td>4,877,095</td>
</tr>
</tbody>
</table>

a/ Estimate based on average value of imports in 1933 and 1934
b/ Estimate based on average value of electrical material imported in 1933 and 1934
<table>
<thead>
<tr>
<th>Commodity</th>
<th>1932 Value</th>
<th>1933 % of total</th>
<th>1934 Value</th>
<th>1948 Value</th>
<th>1949 % of total</th>
<th>1950 Value</th>
<th>1951 % of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animals, alive:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Cattle ............... | 13,239     | 1.1             | 17,953     | 10,902     | 0.9             | 13,189     | 10,181          | 0.9
| Sheep and Goats ...... | 15,090     | 1.2             | 14,388     | 7,507      | 0.7             | 18,195     | 6.7             | 10,594          | 0.9
| CAMELS                | 52.9%      | 138             | 138        | 138        | 138             | 138        | 138             | 138             |
| Others, dressed and undressed: | 32 | 395 | 395 | 395 | 395 | 395 | 395 | 395 |
| Indigenous butter     | 25,731     | 2.1             | 6,748      | 7,004      | 0.7             | 27,482     | 2.0             | 19,673          | 0.9
| Dried Fish           | 14,278     | 1.2             | 20,372     | 17,592     | 0.7             | 27,169     | 1.9             | 16,832          | 0.9
| Soap                 |            |                 |            |            |                 |            |                 | 0.1
| INCENSE and Basad    |            |                 |            |            |                 |            |                 | 0.1
| Groundnuts           |            |                 |            |            |                 |            |                 | 0.1
| Salt                 |            |                 |            |            |                 |            | 10,594          | 0.9
| Others               |            |                 |            |            |                 |            |                 | 0.1
| Total Exports        | 1,235,385  | 100.0           | 1,002,002  | 1,002,002  | 100.0           | 1,002,002  | 100.0           | 1,002,002       |

*Notes:
/ Estimate based on average of 1933-34 prices
b/ Estimate based on 1933 prices
c/ Estimate based on 1934 prices
Table 20. Volume of Selected Imports, 1930-1934 and 1948-1951
(In quintals)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>European butter</td>
<td>185</td>
<td>159</td>
<td>149</td>
<td>139</td>
<td>135</td>
<td>--</td>
<td>--</td>
<td>408</td>
<td>246</td>
</tr>
<tr>
<td>Cheese, meats, fish</td>
<td>111</td>
<td>131</td>
<td>121</td>
<td>111</td>
<td>111</td>
<td>--</td>
<td>--</td>
<td>537</td>
<td>968</td>
</tr>
<tr>
<td>Wheat</td>
<td>129</td>
<td>142</td>
<td>142</td>
<td>142</td>
<td>142</td>
<td>142</td>
<td>142</td>
<td>319</td>
<td>29</td>
</tr>
<tr>
<td>Maize</td>
<td>1,559</td>
<td>31</td>
<td>23,112</td>
<td>96,642</td>
<td>6,939</td>
<td>6,939</td>
<td>6,939</td>
<td>7,017</td>
<td>2,471</td>
</tr>
<tr>
<td>Rice</td>
<td>43,418</td>
<td>32,087</td>
<td>43,047</td>
<td>44,066</td>
<td>46,018</td>
<td>420</td>
<td>1,689</td>
<td>9,747</td>
<td>21,449</td>
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<td>Durra</td>
<td>5,169</td>
<td>5,704</td>
<td>18,724</td>
<td>37,937</td>
<td>22,086</td>
<td>5,169</td>
<td>5,169</td>
<td>5,169</td>
<td>5,169</td>
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<tr>
<td>Other grains</td>
<td>64</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
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<td>Wheat flour</td>
<td>13,552</td>
<td>13,552</td>
<td>14,191</td>
<td>29,999</td>
<td>50,898</td>
<td>7,099</td>
<td>12,359</td>
<td>27,982</td>
<td>53,164</td>
</tr>
<tr>
<td>Other flour</td>
<td>1,760</td>
<td>1,308</td>
<td>1,488</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
</tr>
<tr>
<td>Macaroni</td>
<td>1,760</td>
<td>1,308</td>
<td>1,488</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
</tr>
<tr>
<td>Fresh fruits and vegetables</td>
<td>1,760</td>
<td>1,308</td>
<td>1,488</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
<td>1,992</td>
</tr>
<tr>
<td>Dates</td>
<td>7,090</td>
<td>6,628</td>
<td>10,274</td>
<td>8,967</td>
<td>7,259</td>
<td>9,771</td>
<td>10,125</td>
<td>11,152</td>
<td>22,577</td>
</tr>
<tr>
<td>Preserved fruits and vegetables</td>
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<td>1,119</td>
<td>1,118</td>
<td>1,118</td>
<td>1,118</td>
<td>1,118</td>
<td>1,118</td>
<td>1,118</td>
<td>1,118</td>
</tr>
<tr>
<td>Sugar</td>
<td>49,753</td>
<td>42,737</td>
<td>42,131</td>
<td>45,584</td>
<td>40,346</td>
<td>554</td>
<td>613</td>
<td>9,135</td>
<td>33,098</td>
</tr>
<tr>
<td>Sweet, biscuits, etc.</td>
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<td>649</td>
<td>131</td>
<td>231</td>
<td>131</td>
<td>--</td>
<td>--</td>
<td>932</td>
<td>2,267</td>
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<tr>
<td>Coffee, unhulled</td>
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<td>2,131</td>
<td>2,131</td>
<td>4,949</td>
<td>4,949</td>
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<td>7,296</td>
<td>5,520</td>
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<td>Coffee husks</td>
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<td>2,722</td>
<td>1,977</td>
<td>1,177</td>
<td>632</td>
<td>3,197</td>
<td>5,132</td>
<td>3,224</td>
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<tr>
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<td>546</td>
<td>275</td>
<td>60</td>
<td>56</td>
<td>350</td>
<td>409</td>
<td>884</td>
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</tr>
<tr>
<td>Tea</td>
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<td>1,322</td>
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<tr>
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<tr>
<td>Beer</td>
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<td>20,223</td>
<td>20,223</td>
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<td>20,223</td>
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<tr>
<td>Tea</td>
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<td>7,090</td>
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<td>20,223</td>
<td>20,223</td>
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<tr>
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<td>19,791</td>
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<td>192</td>
<td>192</td>
<td>192</td>
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<tr>
<td>Tar</td>
<td>12,302</td>
<td>12,302</td>
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<td>12,302</td>
<td>12,302</td>
<td>12,302</td>
<td>12,302</td>
<td>12,302</td>
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<tr>
<td>Petroleum</td>
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<td>12,302</td>
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<td>12,302</td>
<td>12,302</td>
<td>12,302</td>
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<tr>
<td>Gasoline</td>
<td>7,138</td>
<td>15,829</td>
<td>17,844</td>
<td>23,501</td>
<td>190,457</td>
<td>1,076</td>
<td>1,076</td>
<td>1,076</td>
<td>1,076</td>
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<tr>
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<td>13,064</td>
<td>10,782</td>
<td>843,679</td>
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<tr>
<td>Lubricating oil</td>
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<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
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</tr>
<tr>
<td>Lubricating grease</td>
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<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
</tr>
<tr>
<td>Edible oils</td>
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<td>4,068</td>
<td>4,068</td>
<td>4,068</td>
<td>4,068</td>
<td>4,068</td>
<td>4,068</td>
<td>4,068</td>
</tr>
<tr>
<td>Coconut oil</td>
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<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
</tr>
<tr>
<td>Soap, all kinds</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
</tr>
<tr>
<td>Tires, all kinds</td>
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<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
<td>3,963</td>
</tr>
<tr>
<td>Cotton, flax, hemp, yarns and piecegoods</td>
<td>13,459</td>
<td>18,287</td>
<td>14,796</td>
<td>11,236</td>
<td>15,071</td>
<td>12,725</td>
<td>9,354</td>
<td>3,713</td>
<td>3,713</td>
</tr>
<tr>
<td>Textiles, manufactured products</td>
<td>32,761</td>
<td>24,768</td>
<td>40,924</td>
<td>60,967</td>
<td>80,261</td>
<td>3,406</td>
<td>6,183</td>
<td>24,300</td>
<td>38,276</td>
</tr>
<tr>
<td>Cement</td>
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<td>24,402</td>
<td>24,402</td>
<td>24,402</td>
<td>24,402</td>
<td>24,402</td>
<td>24,402</td>
<td>24,402</td>
<td>24,402</td>
</tr>
</tbody>
</table>

Value of above commodities as percentage of total value of imports -- 62.9 67.1 62.2 85.1 66.8 69.9 65.4

a/ Gallons
b/ Litres
c/ Olive oil
Table 21. Volume of Selected Exports, 1930-1934 and 1948-1951
(In quintals)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
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<th>1948</th>
<th>1949</th>
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<td></td>
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<tr>
<td>Cattle /</td>
<td>2,603</td>
<td>3,387</td>
<td>2,625</td>
<td>1,944</td>
<td>1,125</td>
<td>1,042</td>
<td>5,036</td>
<td>8,589</td>
<td>8,101</td>
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<tr>
<td>Sheep and goats /</td>
<td>15,088</td>
<td>15,087</td>
<td>18,695</td>
<td>12,004</td>
<td>4,029</td>
<td>5,036</td>
<td>8,589</td>
<td>8,101</td>
<td>3,661</td>
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<tr>
<td>Camels /</td>
<td>29</td>
<td>5</td>
<td>15</td>
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<td>10</td>
<td>10</td>
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<tr>
<td>Other /</td>
<td>1,454</td>
<td>1,353</td>
<td>2,411</td>
<td>1,147</td>
<td>703</td>
<td>526</td>
<td>431</td>
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<tr>
<td>Indigenous butter</td>
<td>2,810</td>
<td>1,501</td>
<td>1,353</td>
<td>2,411</td>
<td>703</td>
<td>526</td>
<td>431</td>
<td>376</td>
<td>275</td>
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<td>Maize</td>
<td>917</td>
<td>43</td>
<td>39</td>
<td>32</td>
<td>104</td>
<td>110</td>
<td>136</td>
<td>170</td>
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<td>Durra</td>
<td>64</td>
<td>48</td>
<td>23</td>
<td>12</td>
<td>72</td>
<td>66</td>
<td>52</td>
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<td>Beans</td>
<td>267</td>
<td>318</td>
<td>286</td>
<td>23</td>
<td>16</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td>121</td>
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<td>7,251</td>
<td>17,615</td>
<td>58,363</td>
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<td>144,216</td>
<td>114,246</td>
<td>144,216</td>
<td>169,932</td>
<td>251,013</td>
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<td>Sugar</td>
<td>23,988</td>
<td>22,982</td>
<td>20,352</td>
<td>19,916</td>
<td>22,249</td>
<td>3,123</td>
<td>1,661</td>
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<td>12</td>
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<tr>
<td>Oil cakes</td>
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<td>Hides and skins:</td>
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<tr>
<td>a) Dried and salted:</td>
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</tr>
<tr>
<td>Cattle</td>
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<td>4,059</td>
<td>7,606</td>
<td>13,106</td>
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<td>25,306</td>
<td>24,745</td>
<td>8,627</td>
<td>5,879</td>
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<tr>
<td>Sheep &amp; goats</td>
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<td>3,824</td>
<td>6,649</td>
<td>5,257</td>
<td>7,130</td>
<td>6,853</td>
<td>5,210</td>
<td>5,210</td>
<td>5,210</td>
</tr>
<tr>
<td>b) Others, dressed &amp; Undressed:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leopards</td>
<td>145</td>
<td>214</td>
<td>200</td>
<td>141</td>
<td>105</td>
<td>492 a</td>
<td>319 a</td>
<td>319 a</td>
<td>319 a</td>
</tr>
<tr>
<td>Others</td>
<td>466</td>
<td>1,922</td>
<td>1,390</td>
<td>1,268</td>
<td>1,196</td>
<td>1,055</td>
<td>579</td>
<td>1,047</td>
<td>1,120</td>
</tr>
<tr>
<td>Sesame seeds</td>
<td>441</td>
<td>28</td>
<td>20,494</td>
<td>2,234</td>
<td>9,464</td>
<td>19,053</td>
<td>16,072</td>
<td>687</td>
<td>687</td>
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<tr>
<td>Ground-nuts</td>
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<td></td>
<td>3,174</td>
<td>3,487</td>
<td>11,686</td>
<td>7,115</td>
<td>403</td>
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<td>Charcoal</td>
<td>8,506</td>
<td>9,018</td>
<td>12,144</td>
<td>7,278</td>
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<td>1,550</td>
<td>1,669</td>
<td>1,669</td>
<td>1,669</td>
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<tr>
<td>Raw cotton</td>
<td>2,293</td>
<td>667</td>
<td>863</td>
<td>307</td>
<td>2,464</td>
<td>2,280</td>
<td>515</td>
<td>575</td>
<td>575</td>
</tr>
<tr>
<td>Palm leaves</td>
<td>1,229</td>
<td>667</td>
<td>863</td>
<td>307</td>
<td>2,464</td>
<td>2,280</td>
<td>515</td>
<td>575</td>
<td>575</td>
</tr>
<tr>
<td>Salt</td>
<td>165,188</td>
<td>952,625</td>
<td>1,591,206</td>
<td>2,136,561</td>
<td>2,300,339</td>
<td>18,775</td>
<td>15,289</td>
<td>20,176</td>
<td>13,275</td>
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<td>Ivory</td>
<td>55</td>
<td>27</td>
<td>40</td>
<td>27</td>
<td>63</td>
<td>0.7</td>
<td>43</td>
<td>70</td>
<td>127</td>
</tr>
<tr>
<td>Animal bones</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Animal horns</td>
<td>62</td>
<td>16</td>
<td>14</td>
<td>21</td>
<td>71</td>
<td>0.15</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Shells</td>
<td>62</td>
<td>16</td>
<td>14</td>
<td>21</td>
<td>57</td>
<td>0.15</td>
<td>2</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Mother-of-pearl</td>
<td>601</td>
<td>1,006</td>
<td>1,407</td>
<td>448</td>
<td>560</td>
<td>673</td>
<td>370</td>
<td>450</td>
<td>286</td>
</tr>
<tr>
<td>Arabic gum</td>
<td>436</td>
<td>1,325</td>
<td>675</td>
<td>317</td>
<td>431</td>
<td>515</td>
<td>1,260</td>
<td>1,260</td>
<td>1,260</td>
</tr>
<tr>
<td>Incense and myrrh</td>
<td>6,362</td>
<td>8,978</td>
<td>8,804</td>
<td>7,748</td>
<td>3,473</td>
<td>4,957</td>
<td>8,829</td>
<td>6,781</td>
<td>7,009</td>
</tr>
<tr>
<td>Sesame oil</td>
<td>33</td>
<td>4</td>
<td>12</td>
<td>14</td>
<td>158</td>
<td>1,009</td>
<td>1,509</td>
<td>1,509</td>
<td>1,509</td>
</tr>
<tr>
<td>Animal fat</td>
<td>357</td>
<td>397</td>
<td>357</td>
<td>397</td>
<td>357</td>
<td>397</td>
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<td>Soap</td>
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<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Mats</td>
<td>189</td>
<td>636</td>
<td>750</td>
<td>775</td>
<td>328</td>
<td>279</td>
<td>318</td>
<td>91</td>
<td>278</td>
</tr>
</tbody>
</table>

Value of above commodities as percentage of total value of exports: 96.0 94.7 91.8 83.8 87.7 89.6 88.9

s/ Heads or number
F. PUBLIC FINANCE

1. Budgetary Deficits

The Trusteeship Administration is dependent for its receipts on (a) territorial revenue and (b) grants by the Government of Italy. The contribution of the Administrative Authority covers and fixes the deficit in the combined civil and military budget.1/ Budget expenditures are fixed from year to year in accordance with the procedures of the Government of Italy.

It was expected, at the time of the Mission's visit, that grants of $U.S. 16.0 million (114.4 million somalos) and $U.S. 9.6 million (68.6 million somalos) would be approved by the Italian Parliament for the fiscal years 1 July 1950/30 June 1951 and 1951/1952, respectively.2/ According to the draft estimate of the budget for 1952/1953, the Italian Government expected to provide a grant of $U.S. 9.2 million to meet the deficit. Table 1 summarizes the available data for two pre-war years and three post-war years of Italian Administration.3/

Territorial revenue fell considerably short of civil expenditures in the pre-war and post-war years under consideration. Table 22 presents the relevant figures. More than half of the allocated and estimated civil expenditures in the three post-war years are covered by grants from the Administering Authority, and nearly one-half in the pre-war years.4/ This clearly shows the deficit budgetary position of Somaliland at current and past levels of administration and public investment. Capital expenditures amounted to $U.S. 1,157 thousand in 1932/1933, $2,490 thousand in 1933/1934, $1,296 thousand in 1950/1951; they are estimated at $1,392 thousand in 1951/1952 and $656 thousand in 1952/1953.

1/ There is no public debt.

2/ Parliament had not then acted on the budgets. In the meantime, the Administration had received advances from the Government of Italy as agreed between the Ministry of the Treasury and the Ministry of Italian Africa.

3/ The amounts are given in current United States dollars throughout this section.

4/ Beginning with the 1951/1952 budget, the expenditure on the military police, the "carabinieri," was transferred from the military to the civil budget.
Table 22. Government Expenditure and Receipts: Summary Statement
(In thousands of U.S. current dollars)

<table>
<thead>
<tr>
<th></th>
<th>1932/33</th>
<th></th>
<th>1933/34</th>
<th></th>
<th>(Allocated) 1950/51</th>
<th></th>
<th>(Estimate) 1951/52</th>
<th></th>
<th>(Draft Estimate) 1952/53</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>% of</td>
<td>Amount</td>
<td>% of</td>
<td>Amount</td>
<td>% of</td>
<td>Amount</td>
<td>% of</td>
<td>Amount</td>
<td>% of</td>
</tr>
<tr>
<td>Expenditure:</td>
<td></td>
<td>total</td>
<td></td>
<td>total</td>
<td></td>
<td>total</td>
<td></td>
<td>total</td>
<td></td>
<td>total</td>
</tr>
<tr>
<td>1. Current civil</td>
<td>2,948</td>
<td>53.2</td>
<td>3,768</td>
<td>46.1</td>
<td>7,846</td>
<td>38.2</td>
<td>7,808</td>
<td>57.4</td>
<td>8,597</td>
<td>64.9</td>
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<tr>
<td>expenditure</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Military expenditure</td>
<td>1,438</td>
<td>25.9</td>
<td>1,913</td>
<td>23.4</td>
<td>11,406</td>
<td>55.5</td>
<td>4,400</td>
<td>32.4</td>
<td>4,000</td>
<td>30.2</td>
</tr>
<tr>
<td>a/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Capital expenditure</td>
<td>1,157</td>
<td>20.9</td>
<td>2,490</td>
<td>30.5</td>
<td>1,296</td>
<td>6.3</td>
<td>1,392</td>
<td>10.2</td>
<td>656</td>
<td>4.9</td>
</tr>
<tr>
<td>4. Total expenditure</td>
<td>5,543</td>
<td>100.0</td>
<td>8,171</td>
<td>100.0</td>
<td>20,548</td>
<td>100.0</td>
<td>13,600</td>
<td>100.0</td>
<td>13,253</td>
<td>100.0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receipts:</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Direct taxes on in-</td>
<td>212</td>
<td>9.7</td>
<td>384</td>
<td>12.1</td>
<td>149</td>
<td>3.3</td>
<td>216</td>
<td>5.4</td>
<td>154</td>
<td>3.8</td>
</tr>
<tr>
<td>come and wealth</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Customs duties, duties on manufacturing, etc.</td>
<td>862</td>
<td>39.4</td>
<td>1,305</td>
<td>41.0</td>
<td>2,414</td>
<td>53.3</td>
<td>2,016</td>
<td>50.4</td>
<td>2,327</td>
<td>57.4</td>
</tr>
<tr>
<td>7. Other indirect taxes</td>
<td>54</td>
<td>2.4</td>
<td>86</td>
<td>2.7</td>
<td>475</td>
<td>10.5</td>
<td>347</td>
<td>8.7</td>
<td>246</td>
<td>6.1</td>
</tr>
<tr>
<td>b/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Non-tax receipts c/</td>
<td>1,062</td>
<td>48.5</td>
<td>1,404</td>
<td>44.2</td>
<td>1,488</td>
<td>32.9</td>
<td>1,421</td>
<td>35.5</td>
<td>1,326</td>
<td>32.7</td>
</tr>
<tr>
<td>9. Total receipts</td>
<td>2,190</td>
<td>100.0</td>
<td>3,179</td>
<td>100.0</td>
<td>4,526</td>
<td>100.0</td>
<td>4,000</td>
<td>100.0</td>
<td>4,053</td>
<td>100.0</td>
</tr>
<tr>
<td>10. Territorial deficit</td>
<td>3,353</td>
<td>4,992</td>
<td>16,022</td>
<td>9,600</td>
<td>9,200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Italian government</td>
<td>3,304</td>
<td>4,776</td>
<td>16,022</td>
<td>9,600</td>
<td>9,200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a/ Includes military capital outlays.

b/ Includes fees from business transactions.

c/ Includes revenue from state property, revenue from fiscal monopolies, revenue from public services, and miscellaneous receipts.
### Table 23. Civil Expenditures and Territorial Revenue
(In thousands of U.S. dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>Civil Expenditures</th>
<th>Territorial Revenue</th>
<th>Deficit</th>
<th>Deficit as percentage of civil expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1932/33</td>
<td>1933/34</td>
<td>1950/51</td>
<td>1951/52</td>
</tr>
<tr>
<td>Civil exp.</td>
<td>4,105</td>
<td>6,258</td>
<td>9,142</td>
<td>9,200</td>
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<tr>
<td>Territorial revenue</td>
<td>2,190</td>
<td>3,179</td>
<td>4,526</td>
<td>4,000</td>
</tr>
<tr>
<td>Deficit</td>
<td>1,915</td>
<td>3,079</td>
<td>4,616</td>
<td>5,200</td>
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<td>Deficit as percentage of civil expenditures</td>
<td>46.7</td>
<td>49.2</td>
<td>50.5</td>
<td>56.5</td>
</tr>
</tbody>
</table>

\(^a/\) Current and capital expenditures.

Table 24 shows the directions of expenditures according to categories. Expenditures on administration and the military have expanded considerably in the post-war period; the former average some three and one-half times as great as pre-war levels, and military costs, excluding the abnormal year 1950/1951 when Italian control was re-instilled in the Territory, are estimated at about two and one-half times pre-war expenditures. Indeed, the Italian Government's grant to Somaliland of $U.S. 16.0 million in 1950/51 was about $400 thousand less than the combined expenditure on administration and the military.

Expenditures on economic and social services (including public works and excluding personnel expenditures, which are included under administration) in 1950/51 were only 50 per cent higher than pre-war.

Current civil expenditures on health and education have been relatively small. In the pre-war period, these expenditures averaged slightly over 10 per cent of total current civil expenditures, and in the post-war period and estimated 8.6 per cent has been designated. The needs for investment in the development of human resource in Somaliland are great. Under soundly conceived programmes, development of educational and health services will contribute significantly to economic efficiency and growth. However, public investment in such services entails recurrent budgetary charges over and beyond initial investment, which must ultimately be supported by economic expansion which will yield increased internal revenue.

Capital expenditures in 1950/51 were substantially below pre-war levels, and estimates for the next two years contemplate first a slight increase and then a drastic reduction. \(^1/\) In fact, capital expenditures in 1952/53 are estimated at only $U.S. 656 thousand, or 4.9 per cent of total expenditures; average pre-war capital expenditures accounted for 25.7 per cent of the total.

\(^1/\) This does not imply that public investment was actually of the order estimated. The figures are those of estimated gross extraordinary expenditures, and do not show actual payments or allow for depreciation of public assets.
Table 22. Government Expenditure and Receipts: Summary Statement
(In thousands of U.S. current dollars)

<table>
<thead>
<tr>
<th>Expenditure:</th>
<th>1932/33</th>
<th>1933/34</th>
<th>(Allocated)</th>
<th>(Estimate)</th>
<th>(Draft Estimate)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>% of</td>
<td>Amount</td>
<td>% of</td>
<td>Amount</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>total</td>
<td>total</td>
<td>total</td>
<td>total</td>
</tr>
<tr>
<td>1. Current civil</td>
<td>2,948</td>
<td>53.2</td>
<td>3,768</td>
<td>46.1</td>
<td>7,846</td>
</tr>
<tr>
<td>2. Military expenditure /</td>
<td>1,438</td>
<td>25.9</td>
<td>1,913</td>
<td>23.4</td>
<td>11,406</td>
</tr>
<tr>
<td>3. Capital expenditure</td>
<td>1,157</td>
<td>20.9</td>
<td>2,490</td>
<td>30.5</td>
<td>1,296</td>
</tr>
<tr>
<td>4. Total expenditure</td>
<td>5,543</td>
<td>100.0</td>
<td>8,171</td>
<td>100.0</td>
<td>20,548</td>
</tr>
<tr>
<td>5. Direct taxes on income and wealth</td>
<td>212</td>
<td>9.7</td>
<td>334</td>
<td>12.1</td>
<td>149</td>
</tr>
<tr>
<td>6. Customs duties, duties on manufacturing, etc.</td>
<td>862</td>
<td>39.4</td>
<td>1,305</td>
<td>41.0</td>
<td>2,414</td>
</tr>
<tr>
<td>7. Other indirect taxes /</td>
<td>54</td>
<td>2.4</td>
<td>86</td>
<td>2.7</td>
<td>475</td>
</tr>
<tr>
<td>8. Non-tax receipts /</td>
<td>1,062</td>
<td>48.5</td>
<td>1,404</td>
<td>44.2</td>
<td>1,488</td>
</tr>
<tr>
<td>9. Total receipts</td>
<td>2,190</td>
<td>100.0</td>
<td>3,179</td>
<td>100.0</td>
<td>4,526</td>
</tr>
<tr>
<td>10. Territorial deficit</td>
<td>3,353</td>
<td>16,022</td>
<td>9,600</td>
<td>9,200</td>
<td></td>
</tr>
<tr>
<td>11. Italian government grant</td>
<td>3,304</td>
<td>4,776</td>
<td>16,022</td>
<td>9,600</td>
<td>9,200</td>
</tr>
</tbody>
</table>

Explanation:

a/ Includes military capital outlays.

b/ Includes fees from business transactions.

c/ Includes revenue from state property, revenue from fiscal monopolies, revenue from public services, and miscellaneous receipts.
Table 23. Civil Expenditures and Territorial Revenue
(In thousands of U.S. dollars)

<table>
<thead>
<tr>
<th></th>
<th>1932/33</th>
<th>1933/34</th>
<th>1950/51</th>
<th>1951/52</th>
<th>1952/53</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil expenditures</td>
<td>4,105</td>
<td>6,258</td>
<td>9,142</td>
<td>9,200</td>
<td>9,253</td>
</tr>
<tr>
<td>Territorial revenue</td>
<td>2,190</td>
<td>3,179</td>
<td>4,526</td>
<td>4,000</td>
<td>4,053</td>
</tr>
<tr>
<td>Deficit</td>
<td>1,915</td>
<td>3,079</td>
<td>4,616</td>
<td>5,200</td>
<td>5,200</td>
</tr>
<tr>
<td>Deficit as percentage of civil expenditures</td>
<td>46.7</td>
<td>49.2</td>
<td>50.5</td>
<td>56.5</td>
<td>56.2</td>
</tr>
</tbody>
</table>

Table 24 shows the directions of expenditures according to categories. Expenditures on administration and the military have expanded considerably in the post-war period; the former average some three and one-half times as great as pre-war levels, and military costs, excluding the abnormal year 1950/1951 when Italian control was re-instituted in the Territory, are estimated at about two and one-half times pre-war expenditures. Indeed, the Italian Government's grant to Somaliland of $U.S. 16.0 million in 1950/51 was about $400 thousand less than the combined expenditure on administration and the military.

Expenditures on economic and social services (including public works and excluding personnel expenditures, which are included under administration) in 1950/51 were only 50 per cent higher than pre-war.

Current civil expenditures on health and education have been relatively small. In the pre-war period, these expenditures averaged slightly over 10 per cent of total current civil expenditures, and in the post-war period and estimated 8.6 per cent has been designated. The needs for investment in the development of human resource in Somaliland are great. Under soundly conceived programmes, development of educational and health services will contribute significantly to economic efficiency and growth. However, public investment in such services entails recurrent budgetary charges over and beyond initial investment, which must ultimately be supported by economic expansion which will yield increased internal revenue.

Capital expenditures in 1950/51 were substantially below pre-war levels, and estimates for the next two years contemplate first a slight increase and then a drastic reduction. In fact, capital expenditures in 1952/53 are estimated at only $U.S. 656 thousand, or 4.9 per cent of total expenditures; average pre-war capital expenditures accounted for 25.7 per cent of the total.

1/ This does not imply that public investment was actually of the order estimated. The figures are those of estimated gross extraordinary expenditures, and do not show actual payments or allow for depreciation of public assets.

95
Table 24. Trends in Expenditures
(In thousands of U.S. dollars)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Average 1932/33-1933/34 (allocated)</th>
<th>(estimate) 1951/52</th>
<th>(draft estimate) 1952/53</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total civil expenditure</td>
<td>5,151</td>
<td>9,142</td>
<td>9,200</td>
</tr>
<tr>
<td>Relative (1932/33-1933/34=100)</td>
<td>1,401</td>
<td>5,003</td>
<td>4,874</td>
</tr>
<tr>
<td>Administration a/</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative</td>
<td>100</td>
<td>357</td>
<td>348</td>
</tr>
<tr>
<td>Fiscal, Economic and Social Services and Public Works</td>
<td>1,547</td>
<td>2,323</td>
<td>2,546</td>
</tr>
<tr>
<td>Relative</td>
<td>100</td>
<td>150</td>
<td>165</td>
</tr>
<tr>
<td>Civil capital expenditure</td>
<td>1,823</td>
<td>1,296</td>
<td>1,392</td>
</tr>
<tr>
<td>Relative</td>
<td>100</td>
<td>71</td>
<td>76</td>
</tr>
<tr>
<td>Military expenditure b/</td>
<td>1,792</td>
<td>11,406</td>
<td>4,400</td>
</tr>
<tr>
<td>Relative</td>
<td>100</td>
<td>636</td>
<td>246</td>
</tr>
<tr>
<td>Territorial revenue</td>
<td>2,684</td>
<td>4,526</td>
<td>4,000</td>
</tr>
<tr>
<td>Relative</td>
<td>100</td>
<td>169</td>
<td>149</td>
</tr>
</tbody>
</table>

a/ Includes civil personnel and general administrative services.

b/ Includes the military police (carabinieri), except in 1951/52 when the expenditure on the military police is included with the civil personnel.

The outstanding feature of the budgetary situation is the close relationship between the governmental grants-in-aid and territorial expenditures on administration and the military. The following comparative figures reveal this relationship:
<table>
<thead>
<tr>
<th>Year</th>
<th>A. Expenditure on Administration and Military</th>
<th>B. Grants A as % of B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(in thousands of U.S. dollars)</td>
<td></td>
</tr>
<tr>
<td>1932/33</td>
<td>2,716</td>
<td>3,304</td>
</tr>
<tr>
<td>1933/34</td>
<td>3,672</td>
<td>4,776</td>
</tr>
<tr>
<td>Average of 4 years to 30 June 1947 a/</td>
<td>1,431</td>
<td>1,745</td>
</tr>
<tr>
<td>1947/48</td>
<td>1,708</td>
<td>1,116</td>
</tr>
<tr>
<td>1948/49</td>
<td>1,894</td>
<td>1,173</td>
</tr>
<tr>
<td>1950/51</td>
<td>16,409</td>
<td>16,022</td>
</tr>
<tr>
<td>1951/52</td>
<td>9,274</td>
<td>9,600</td>
</tr>
<tr>
<td>1952/53</td>
<td>9,268</td>
<td>9,200</td>
</tr>
</tbody>
</table>

a/ In the British period, the two categories are (i) general administration and (ii) law and order.

It should be observed that the greater part of the Territory's expenditures for civil personnel is on European (i.e., Italian) administrators, as shown in Table 25. Of the total expenditures for civil personnel, an average of 63.3 per cent was for Europeans in the pre-war period, and 67.3 per cent in the post-war period. The costs of European civil personnel which represented about 21.5 per cent of total current civil expenditures pre-war, rose to over 35 per cent in the post-war period.
Table 25. Civil and Total Expenditure
(In thousands of U.S. dollars)

<table>
<thead>
<tr>
<th>Year ending 30 June</th>
<th>1932/33</th>
<th>1933/34</th>
<th>(allocated)</th>
<th>(estimate)</th>
<th>(draft estimate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Civil Expenditure:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Civil personnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. European</td>
<td>599</td>
<td>856</td>
<td>2,923</td>
<td>2,784</td>
<td>2,804</td>
</tr>
<tr>
<td>b. Indigenous</td>
<td>312</td>
<td>551</td>
<td>1,294</td>
<td>1,675</td>
<td>1,187</td>
</tr>
<tr>
<td>Sub-total</td>
<td>911</td>
<td>1,407</td>
<td>4,217</td>
<td>4,459</td>
<td>3,991</td>
</tr>
<tr>
<td>2. General administrative services</td>
<td>201</td>
<td>284</td>
<td>786</td>
<td>415</td>
<td>658</td>
</tr>
<tr>
<td>3. Grant to the Municipality of Mogadiscio, etc.</td>
<td>54</td>
<td>79</td>
<td>55</td>
<td>34</td>
<td>96</td>
</tr>
<tr>
<td>4. Civil police (excluding personnel)</td>
<td>269</td>
<td>83</td>
<td>348</td>
<td>254</td>
<td>785</td>
</tr>
<tr>
<td>5. Military police (carabinieri)</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>a. Personnel</td>
<td>166</td>
<td>68</td>
<td>-</td>
<td>-</td>
<td>619</td>
</tr>
<tr>
<td>b. Services and equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Fiscal services</td>
<td>22</td>
<td>31</td>
<td>386</td>
<td>470</td>
<td>465</td>
</tr>
<tr>
<td>7. Economic services</td>
<td>471*</td>
<td>590*</td>
<td>195</td>
<td>368</td>
<td>325</td>
</tr>
<tr>
<td>8. Social services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Health</td>
<td>311</td>
<td>292</td>
<td>530</td>
<td>480</td>
<td>522</td>
</tr>
<tr>
<td>b. Education</td>
<td>30</td>
<td>54</td>
<td>153</td>
<td>184</td>
<td>224</td>
</tr>
<tr>
<td>c. Public assistance</td>
<td>24</td>
<td>119</td>
<td>274</td>
<td>180</td>
<td>168</td>
</tr>
<tr>
<td>Sub-total</td>
<td>365</td>
<td>465</td>
<td>957</td>
<td>844</td>
<td>914</td>
</tr>
<tr>
<td>9. Justice</td>
<td>38</td>
<td>59</td>
<td>117</td>
<td>101</td>
<td>112</td>
</tr>
<tr>
<td>10. Public works-transport and communications</td>
<td>449</td>
<td>701</td>
<td>785</td>
<td>864</td>
<td>520</td>
</tr>
<tr>
<td>Total current civil expenditure</td>
<td>2,948</td>
<td>3,768</td>
<td>7,846</td>
<td>7,808</td>
<td>8,597</td>
</tr>
<tr>
<td>Civil Capital Expenditure:</td>
<td>1932/33</td>
<td>1933/34</td>
<td>(allocated) 1950/51</td>
<td>(estimate) 1951/52</td>
<td>(draft estimate) 1952/53</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------------------</td>
<td>---------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>11. Public works - transport and communications</td>
<td>1,000</td>
<td>2,104</td>
<td>1,166</td>
<td>1,136</td>
<td>592</td>
</tr>
<tr>
<td>12. Agricultural development</td>
<td>157</td>
<td>386</td>
<td>55</td>
<td>128</td>
<td>64</td>
</tr>
<tr>
<td>13. Postal telephone and radiotelegraph installations</td>
<td>..</td>
<td>..</td>
<td>22</td>
<td>80</td>
<td>-</td>
</tr>
<tr>
<td>14. Grants to municipal capital expenditures</td>
<td>..</td>
<td>..</td>
<td>53</td>
<td>48</td>
<td>-</td>
</tr>
<tr>
<td>Total civil capital expenditure</td>
<td>1,157</td>
<td>2,490</td>
<td>1,296</td>
<td>1,392</td>
<td>656</td>
</tr>
<tr>
<td>Total civil current and capital expenditure</td>
<td>4,105</td>
<td>6,285</td>
<td>9,142</td>
<td>9,200</td>
<td>9,253</td>
</tr>
<tr>
<td>Total military expenditure</td>
<td>1,438</td>
<td>1,913</td>
<td>11,406</td>
<td>4,400</td>
<td>4,000</td>
</tr>
<tr>
<td>Total civil and military expenditure</td>
<td>5,543</td>
<td>8,171</td>
<td>20,548</td>
<td>13,600</td>
<td>13,253</td>
</tr>
</tbody>
</table>

- Includes expenditure on the carabinieri.

- Includes special services: government printing shop, tobacco, cotton ginnery and government motor pool.
The 1950/51 statement of receipts reveals the general structure of Government revenue, as shown in Table 26. (Comparative data are presented in Table 6.) Total revenue in 1950/51 amounted to $U.S. 4,526 thousand. The prominent characteristic of the Government's sources of finance is the contribution of indirect taxes, which constituted about three-fourths of total receipts. The emphasis on external taxation is underlined by the fact that nearly one-half of total revenue derives from the Customs Service — import and export duties, port duties and other fees collected by this Service. Indeed, import duties, which have long been the principal source of receipts, represented about one-third of total receipts in 1950/51. Direct taxes (income and hut taxes), on the other hand, have held a minor role in the revenue structure, yielding only 3.3 per cent of total receipts.

Textile goods, subject to a 30 per cent ad valorem rate, were the principal source of import receipts, accounting for approximately one-half of the total. Other main items of import receipts were foods and beverages and petroleum products.

The main burden of taxation is thus placed on the consumers of imported necessities. This has the net effect of burdening those least capable of paying taxes. It is a regressive form of tax since it is not fixed in accordance with ability to pay, and in the absence of alternate domestic sources of commodities, those in the lowest income ranks are taxed proportionately the heaviest. Moreover, without domestic competition, the import duties raise the price of goods. The cost of these commodities thus constitutes a far greater claim on lower level income than on the higher incomes.

2. Summary

Deficits in the budgets of Somaliland have persisted chronically since the advent of European administration. Prior to the war, the Government of Italy's grants supported the administrative structure of the government, the absorption of immigrants and the military organization. During the period of British Administration (December 1941-April 1950) grants-in-aid were fairly considerable, although this was a period of modified care-and-maintenance, when there were no substantial development projects requiring capital outlays.

At the estimated current level of civil and military expenditure, a very high annual rate of increase in the value of production and taxable capacity of Somaliland would be required to make good at an early date, say 1960, deficiencies in the accounts. Since such rapid development cannot be foreseen, it is clear that the remaining alternatives must be implemented. In view of the Administration's stated policy of developing the Territory's economic and social conditions to improve the standard of living of the population and to prepare the Territory for its future status as an independent state, it is imperative that all methods which will contribute to placing the Territory on a sound financial basis be utilized.

1/ The revenue system, including principal taxes, is described in broad outline in the 1950 and 1951 Trusteeship Administration Reports to the General Assembly and need not be summarized here.

2/ Petroleum products and sugar are subject to specific duties; otherwise most duties are on an ad valorem basis.
Table 26. **Structure of Government Revenue, 1950/51**

(In thousands of U.S. dollars)

<table>
<thead>
<tr>
<th>Revenue</th>
<th>1950/51</th>
<th>Percentage of total revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direct Taxes</td>
<td>149</td>
<td>3.3</td>
</tr>
<tr>
<td>2. Principal indirect taxes:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Import and export duties:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Import duties</td>
<td>1,483</td>
<td>32.8</td>
</tr>
<tr>
<td>(ii) Export duties</td>
<td>226</td>
<td>5.0</td>
</tr>
<tr>
<td>b. Taxes on commercial transactions</td>
<td>475</td>
<td>10.5</td>
</tr>
<tr>
<td>c. Taxes on production (sugar and alcohol)</td>
<td>438</td>
<td>9.7</td>
</tr>
<tr>
<td>d. Receipts of fiscal monopolies (tobacco and matches)</td>
<td>711</td>
<td>15.7</td>
</tr>
<tr>
<td>3. Fees and other receipts:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Revenue from public services:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Postal and communications</td>
<td>246</td>
<td>5.4</td>
</tr>
<tr>
<td>(ii) Port duties and other fees collected by Customs Service</td>
<td>450</td>
<td>9.9</td>
</tr>
<tr>
<td>(iii) Health and veterinary</td>
<td>38</td>
<td>0.8</td>
</tr>
<tr>
<td>(iv) Revenue from state property</td>
<td>34</td>
<td>0.8</td>
</tr>
<tr>
<td>4. Miscellaneous</td>
<td>277</td>
<td>6.1</td>
</tr>
<tr>
<td>Total revenue</td>
<td>4,526</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 27. Government Receipts  
(In thousands of U.S. dollars)

<table>
<thead>
<tr>
<th>Year ending 30 June</th>
<th>1932/33</th>
<th>1933/34</th>
<th>1950/51</th>
<th>1951/52</th>
<th>1952/53</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Revenue from state property</td>
<td>64</td>
<td>83</td>
<td>34</td>
<td>53</td>
<td>30</td>
</tr>
<tr>
<td>2. Direct taxes</td>
<td>212</td>
<td>385</td>
<td>149</td>
<td>216</td>
<td>154</td>
</tr>
<tr>
<td>3. Indirect taxes and fees from business transaction</td>
<td>54</td>
<td>86</td>
<td>475</td>
<td>347</td>
<td>246</td>
</tr>
<tr>
<td>4. Customs and manufacturing duties, etc.:</td>
<td>861</td>
<td>1,305</td>
<td>2,415</td>
<td>2,016</td>
<td>2,327</td>
</tr>
<tr>
<td>a. Imports</td>
<td>..</td>
<td>..</td>
<td>1,483</td>
<td>..</td>
<td>(1,888)</td>
</tr>
<tr>
<td>b. Exports</td>
<td>..</td>
<td>..</td>
<td>226</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>c. Duties on sugar and alcohol manufacturing</td>
<td>..</td>
<td>..</td>
<td>438</td>
<td>..</td>
<td>439</td>
</tr>
<tr>
<td>d. Others</td>
<td>..</td>
<td>..</td>
<td>268</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>5. Revenue from fiscal monopolies (tobacco and matches)</td>
<td>..</td>
<td>..</td>
<td>711</td>
<td>635</td>
<td>739</td>
</tr>
<tr>
<td>6. Revenue from public services:</td>
<td>999</td>
<td>1,321</td>
<td>466</td>
<td>695</td>
<td>548</td>
</tr>
<tr>
<td>a. Postal and telecommunications</td>
<td>75</td>
<td>103</td>
<td>146</td>
<td>288</td>
<td>222</td>
</tr>
<tr>
<td>b. Port duties</td>
<td>..</td>
<td>..</td>
<td>182</td>
<td>224</td>
<td>249</td>
</tr>
<tr>
<td>c. Health and Veterinary</td>
<td>..</td>
<td>..</td>
<td>38</td>
<td>77</td>
<td>36</td>
</tr>
<tr>
<td>d. Others</td>
<td>..</td>
<td>..</td>
<td>..</td>
<td>106</td>
<td>41</td>
</tr>
<tr>
<td>7. Miscellaneous</td>
<td>..</td>
<td>..</td>
<td>277</td>
<td>38</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,190</td>
<td>3,179</td>
<td>4,526</td>
<td>4,000</td>
<td>4,053</td>
</tr>
<tr>
<td>Grant from the Italian Government for civil and military expenditures</td>
<td>3,304</td>
<td>4,776</td>
<td>16,022</td>
<td>9,600</td>
<td>9,200</td>
</tr>
<tr>
<td><strong>Total receipts</strong></td>
<td>5,494</td>
<td>7,955</td>
<td>20,548</td>
<td>13,600</td>
<td>13,253</td>
</tr>
</tbody>
</table>
G. NOTE ON TRANSPORTATION

1. Introduction

An appropriate policy for the amelioration of transport conditions in the vast Territory of Somaliland, with its sparse and predominantly mobile population, and its different geographical zones having quite diverse patterns of trade relations within and without Somaliland, is a subject requiring specialist attention. Considering the Territory as a whole the natural difficulties imposing cost obstacles in the way of any far-reaching amelioration of transport are formidable: in respect of oceanic transport, naturally deficient harbours, entailing burdensome costs of handling, light-eligible, packaging and insurance on inward and outward cargo; disturbance of sea, with limited exceptions; in respect of motorized ground transport, difficulties of the wet season; seepage of water near the rivers; variety of soils; deficiencies of construction materials in the principal traffic areas; topographic barriers in the thinly populated north. Certain of these general conditions are not unique in Africa.

The slenderness of the Territory's resources, as known at present, suggests, as a general rule, that far-reaching and costly improvements of harbours and roads would be wholly uneconomic and burdensome; this view is shared by responsible officials of the Territorial Government, for large schemes would call for an initial investment and recurrent maintenance costs out of proportion to the productive and revenue capacity of the Territory. Just as major schemes of port construction would be unrealistic in relation to the economic capacity of the hinterland of Somaliland, so similarly would be extensive changes in the surface structure of roads. Within these limits, improvements are needed to meet the most rational needs of production, distribution, external commerce and administration. Any evaluation of an appropriate scale of public investment obviously depends on changing circumstances, as well as balance with other requirements involving non revenue-earning investment (administration of agricultural services, education, health, etc.), and public investment in other basic equipment (rural and urban water supplies and the like).

Rational organization of transport services also requires the cooperation of private enterprise. The Administration is fully alert to the desirability of encouraging concerns to invest in equipment and services serving a public or specific marketing purpose: for example, in a more rational and

1/ Having their dromedaries and other draught animals. Camel caravans are important carriers of the produce of the country.

2/ The Mission lacked a specialist in this field, and records only its general views.

3/ In all Somaliland, vessels other than dhows must operate in open waters. The only naturally protected harbours are the bays at Kismayu and Hafun.

4/ Expansion of commerce with Ethiopia might involve expenditures not justifiable under current circumstances.
modern organization of coastwise traffic and in more economical facilities for landing and storing petroleum products.1/

The limited manpower budget of the Territory is a further factor to be taken into consideration in gauging an appropriate annual rate and seasonal timing of public works. This factor also affect the extent to which mechanical means might be economically employed in the maintenance and construction of roads. Investment may not be conceived of in purely financial terms, but also in relation to a wise allocation of the Territory's scarce labour resources.2/

2. Land transport

The fact is, as noted in the 1950 Report to the General Assembly,3/ the network of roads and tracks in the Territory is very extensive by comparison with density of population and the extent of motorised traffic. As of 31 December 1950 there were 9,168 kilometres of road and tracks; of this number 3,238 were listed as apistes difficiles".4/ At the same time there were about 3,500 automobiles registered, of which approximately three-fourths are lorries; there were also 312 trailers.5/ Relative to estimated population and area, there were 136 persons and 5 1/4 square kilometres per kilometre of road and track (all categories). Recently compiled data6/ permit a very rough assessment, though not an exact comparison, with conditions in other African countries. Of 31 countries for which recent data are available, only 8 had lower densities of population per kilometre of road and track and most of these had a more compact land area per kilometre of road.

1/ Before the war an iron bridge at Genale, on the Webbe Shebeli, was built by the S.A.C.A. (Societa Anonima Cooperative Agricola). Similar interests in the Lower Juba have recently been concerned with more efficient use of water and road transportation for conveyance of bananas.

2/ About 1,000 day labourers were engaged in road works at the time of the Mission's stay in the Territory. One official stated that the commencement of road construction in one area had resulted in an immediate withdrawal of labour from agricultural enterprise.

3/ Page 112.

4/ A memorandum received by the Mission gave the extent of roads, principal and secondary tracks at 8,000 km. Most of the secondary tracks are traversable by motor, during the dry season.

5/ Based on data provided in the 1950 Report to the General Assembly.

6/ United Nations, Department of Economic Affairs, Review of Economic Conditions in Africa (New York, 1951), Table 44.
It is essential from the standpoint of construction and maintenance costs and dependence on imported materials to distinguish between artificially surfaced roads and those having a natural foundation.\(^1\) There are in the Territory 601 km. of bitumised or metalled roads (including 21 km. in Mogadishu); 67 km. of macadam roads (5 km. in Mogadishu); 2,000 km. of principal tracks, and nearly 2,300 km. of secondary tracks, having a natural foundation.

Except for the purpose of specifying the bitumised and macadam roads, there is little to add to the description of the network, and its relation to ports, production and market centres, provided in the 1950 Report.\(^2\) The principal roads and tracks leaving Mogadishu, the main part and centre of air communications, are:

a. Mogadishu - Afgoi - Vittoria d’Africa - Gelib - Kismayu (475 km.); thence by track to Kenya. One section of 25 km., the Mogadishu - Afgoi crossroad, is bitumised.

This road traverses the main agricultural export area (bananas and cotton), and connects the coastal towns of Merca, Brava and Kismayu. Merca and Kismayu are principal agricultural export ports; they have very little import trade. The connecting road Vittoria d’Africa - Merca (12 km.) is also bitumised.

If the sections with natural foundation are not to suffer severe damage, with resulting high maintenance costs, they should be considered as traversable only during dry seasons.\(^3\) This artery is therefore supplemented by a dunal track (500 km.) covering much the same route. This track, owing to the permeable nature of much of its soil,\(^4\) allows passage of vehicles during rainy seasons.

b. Mogadishu - Afgoi - Iscia Baidoa - Lugh Ferrandi - Dolo (500 km.); thence to Ethiopia. Bitumised sections total 184 km. (Mogadishu - Afgoi) 30 km., Iscia Baidoa - Lugh Ferrandi, 99 km. out of a total of 168; Lugh Ferrandi - Dolo, 55 km. out of a total of 71).\(^5\)

c. Mogadishu - Villaggio Duca degli Abruzzi - Bulo Burti - Belet Uen - Fer-Fer (375 km.); thence to Ethiopia and south by track to Mandera in Kenya. This road is entirely bitumised.

\(^1\) Reference is made in this regard to a study carried out by H.W.W. Pollitt, Colonial Road Problems: Impressions from visit to Nigeria. Colonial Research Publications No. 8, London, H.M. Stationery Office, 1950, in which costs of maintenance of earth roads and metalled and asphalt roads in that Territory are analysed.

\(^2\) Question 113, pages 105-119.

\(^3\) Rains during the wet seasons are intermittent and erratic.

\(^4\) In places the texture consists partly of cotton soil.

\(^5\) The section from Baidoa to Iolo is less used. More clearing of the grass and bush under the edges of the tarmac is worth of immediate attention.
d. A fourth track, Fer-Fer - Dusa-Mareb - Galcaio - Garoe - Gardo. Bender Cassim (1,100 km. of natural Foundation), is linked with the road previously listed and is therefore connected with the network extending from Mogadishu, reaching Mudugh and Midjurtein.

Part of the road from Mogadishu to Dolo joins the track from Dolo to Kismayu (795 km.); 170 km. of bitumised road serve both arteries.

Various other tracks are listed in the 1950 Report, somewhat according to their importance, though detailed study of the importance of tracks as trade routes would be essential for formulation of a mature judgement. The interior tracks connect the principal, though generally small, agglomerations of population. Exceptions to such inter-connexion are found in the topographically difficult Midjurtein, a region of very little motorized traffic, where, except for skins, the principal resources potentially capable of development are located near the sea. The coastal part of this area depends on dhows ('sambuki') for its supply and trade with Aden, Mogadishu, etc. The Mudugh's road-links with Berbera are also important to the trade and commerce of this area. The long coastal track leading north from Mogadishu, traversing an area of dunes and reaching little-populated coastal points, is less significant than parallel tracks in the interior.

The Webbe Shebeli is bridged at several places. Four ferries ensure communications between the two banks of the Juba.

The A.F.I.S. endeavours to maintain part of this extended system of natural tracks on the principle of opening them to traffic only in dry periods. Use of machines, not currently available to the Administration, would facilitate maintenance of the more important tracks. The Administration has recently estimated its dollar requirements for purchase of machinery for opening and maintaining natural surface roads at $U.S. 100,000.

As an indication of the cost involved in reconstructing modern-surfaced roads, which could not be maintained in their pre-war condition by the British "caretaker" Administration, the estimated cost of repairing the bitumised all-season road from Mogadishu to Fer-Fer is about So. 20 million or So. 35,000 per km. As regards the principal tracks, establishment of all-weather roads, without resorting to bitumised or asphalt construction, would, it is estimated, involve in some localities an even higher cost per kilometre (up to So. 100,000). This is the case of roads near the Webbe Shibeli and the Juba, where a stone bed would not be adequate.

The A.F.I.S. has started on a programme of repair and maintenance of bitumised and asphalt roads, in accordance with the principle of traffic intensity. Work is under way, mainly in the areas Vittoria d'Africa - Merca, Mogadishu - Afgoi, Mogadishu - Balad - Villaggio Duca degli Abruzzi. The Administration has recently allocated So. 1,500,000 for repair of this road, parts of which lie above the surrounding country and are being dangerously undermined.

The available financial means permit a programme of maintenance and small repairs only of four key bridges across the Webbe Shibeli. The
Administration considers that there is real need for more extensive rebuild­ing. 1/

In order to benefit the country as a whole, road improvements are needed in the primary agricultural export area. The principal scheme considered for this area, which is to say, Mogadishu to Brava and thence to Kismayu, envisages improvements of the sand-dune track to which reference has been made above. This scheme is of modest proportions and, from Mogadishu to Brava, would not entail heavy costs. 2/

3. Ports, Rivers and Coastwise Transport

There is also need for undertaking modestly conceived port improvements on a scale not allowed by the available financial means. In 1950/51 about So. 1 million were expended on maintenance of ports; in the 1951/52 budget this sum was reduced to So. 600,000. The most essential needs, as stated orally to the Mission, are: installation of a self-moving crane and quay improvements at Mogadishu 3/ (estimated cost, So. 200,000); at Merca, a new crane; at Bender Cassim, where the pre-war jetty has been dismantled, a quay (estimated cost, So. 300,000). Kismayu, which alone of the significant ports has a well-protected bay, is at the present time less important as an export port than Merca; there is under the present programme no extraordinary scheme for development and equipment of this port.

Technical studies have been made of navigation possibilities on the Juba (which has a very difficult mouth). In the absence of any considerable economic development of this area which except for its severely limited labour supply, has promising agricultural potentialities - major port and river schemes would, in the view of the Mission, be impractical.

The Mission considers as important the steps the Administration has taken to encourage a more rational development of coastwise shipping. More modern techniques and organization would ensure more regular communications among the ports and landing places in Somaliland, including particularly better connexions between the southern and central portions of the country and the Midjurtein. Coastwise traffic is now carried out by dhows, supplemented irregularly by banana ships joining Merca with Kismayu. The dhows, which are an important feature of the transport system, connect the Midjurtein with the remainder of Somaliland, and connect Somaliland with Aden, Hadramuth, Iraq, and with Kenya, Tanganyika and Zanzibar. Occasionally the dhows go as far as India and Mozambique. Cargo consists of essential products and supplies - dates, salt, carpets, mats, drugs, incense, skins, dried fish.

1/ The current budget allots So. 1,200,000 for ordinary maintenance of ferry services, bridges and roads. An enlarged programme would require about So. 2,000,000.

2/ The area near the Juba presents difficulties.

3/ A breakwater accords partial protection against the N.E. monsoon to Mogadishu, the principal distribution centre and the only port equipped to receive imports on a large scale. Data on port activities are provided in the 1950 Report.
maize, and so forth. This traffic is subject to seasonal limitations. The supply and trade needs of the North, and of other sections of the Territory, warrant a limited introduction of more modern techniques. Accordingly, with the approval of the Administration, a private firm has been seeking to obtain a suitable coastwide vessel, so far without success. The Trusteeship Administration has also communicated with an Italian shipping line regarding the possibility of stops at Bender Cassim, on occasion, elsewhere.1/

4. Petroleum Products

Reconstruction of the petrol storage tanks at Mogadishu, dismantled during the war, would be beneficial in reducing costs. Prior to the war, petrol was pumped direct from tanker to shore, during relatively quiet seas. New shipment is made in containers, resulting in extra handling and additional costs. Re-installation of the storage facilities at Mogadishu has been studied by interested oil companies. The Mission was informed that the outcome of these technical studies was favourable to investment, but so far no investment has been undertaken. This project, has to date, not been considered as a field for public investment.

5. Conclusion

In the view of the Mission, schemes for improvement of transportation should be incorporated in the development plan to be prepared by the Government. This will involve balancing the detailed requirements in the various regions in relation to the development of the Territory as a whole, and consideration of the most economical combined use of the various means of transport, by land, sea and air.2/

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1/ The only regular maritime services (including, for this purpose, banana ships) now touch Somaliland at Mogadishu, Kismayu and Merca. The Territory's main dock and warehouse facilities at Mogadishu. Except for the banana ships, these services are maintained by Lloyd Triestino and Lloyd Mediterraneo; these are supplemented by foreign ships.

2/ The Mission received information on schemes, under consideration, for further extension of autobus services from Mogadishu to outlying centres; on opening a scheduled air service (under military auspices) to civilian traffic; and on very tentative road schemes in the Midjurtine. We also note a reference in the 1950 Report to possible expansion of facilities at Mogadishu airport. In addition to the airport at Mogadishu, there are ten landing fields. Bender Cassim, Alula, Scusciuban, Gardo, Galcaio, Belet Uen, Iscia Baidoa, Lugh Ferrandi, Bardera and Kismayu.
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PART TWO

TECHNICAL REPORTS OF THE MISSION'S EXPERTS
CHAPTER III: LIVESTOCK AND NATURAL PASTURES (RANGE)

INTRODUCTION

Forage produced on its natural pastures is Somaliland's major natural resource. More land is devoted to and useful for forage production than all other uses combined. Even though no statistics of land use are available, it is probable that 80 to 90 percent of the land area of the Territory is useful primarily for the forage it produces. This use will continue under present climatic conditions.

Livestock production, by which the forage is converted into products usable by man, is the most important industry in the indigenous economy. Its basic economic importance, even in its present underdeveloped state, is evidenced by the yet unmeasured value of the livestock products consumed or used by the Somali people, as well as by the considerable export proceeds accruing from hides and skins, ghee and camel grease.

The growing of livestock and their grazing on the natural pastures affects directly more of the indigenous peoples than any other single activity. It is the primary activity of the nomadic and semi-nomadic peoples; even the sedentary groups have their herds of sheep, goats and cattle. Livestock are not, however, grown primarily for sale or for sale of their products. They are grown for satisfaction of human needs for meat, milk, animal fat and transport of worldly goods (seldom for transport of humans); as capital for the payment of blood money in the case of intertribal feuds, bride price on the occasion of marriage, fines or fees for pasturage and water; as an investment or savings for use in times of drought or famine; or as capital that is apt to raise his prestige in the opinion of his fellow tribesmen. The Somali is not, therefore, inclined to sell livestock unless to meet his modest needs for cloth, sugar, tea and other incidental items, or to buy durra (sorghum) or maize. Sale of hides and skins, ghee, camel grease, and to a limited extent live animals are, therefore, the only means by which the vast livestock industry of Somaliland contributes to the broader economic welfare of the country.

The Somali are primarily pastoralists, and they have been for centuries. They like it, and consider it a noble occupation. With even a casual study of their livestock production methods and their methods for handling their tribal grazing grounds, one cannot help but be impressed by the quality of primitive management devised to endure under the conditions of seasonal shortages of rain, lack of water, livestock disease and periodic sustained drought that are characteristics of Somaliland. One must study their methods carefully and seek to understand them before introducing methods or breeds of livestock that were developed elsewhere in the world.

Since there is almost no livestock production on the European farms, the problem of improving livestock production and maintaining or improving forage production is almost entirely one of working with tribal lands and Somali peoples.

In view of the fact that most of the Somali are and will continue to be engaged in pastoral occupations, and most of the land of Somaliland is and will continue to be valuable primarily for forage production, improvements in livestock and livestock production methods and proper use and management of the natural pastures can do much for the economic advancement of the Territory as any other field of development. In
bringing about this progress in a country as primitive as Somaliland, it is evident that there will be many possible steps which can be taken. But in considering only improvement of the livestock industry and the pastures on which it is based the Mission cannot avoid being impressed by the utter futility of proceeding very far unless ways are found to overcome the following two barriers:

1. Lack of markets for the export of meat and live animals, and the lack of facilities for the preparation of animal by-products. Even if the Somali is willing to sell his animals, he can rely on an inadequate internal market. There is no market for the surplus animals.

2. The Somali philosophy that livestock are a form of wealth to be accumulated, and that numbers of livestock owned all to a man's prestige. From this springs a resistance to selling and the accumulation of livestock as a form of non-working capital.

These two barriers, and the degree of success with which they can be overcome, should be kept in mind as we review the livestock industry and natural pastures.

A. Livestock And Livestock Production Methods

The livestock of Somaliland and the methods evolved by the Somali in managing his livestock are definitely a product of an unfavorable environment made up by widespread lack of water and its poor quality, low plane of livestock nutrition, prevalence of disease and debilitating heat and humidity. The Somali, over centuries, has had to place maximum emphasis on ability of animals to survive under these conditions and has adopted management practices which would, in a primitive but often ingenious way, minimize their effects on his livestock.

The livestock of Somaliland are camels, cattle, sheep, goats, horses, donkeys, swine and chickens. No reliable statistics are available as to the numbers of animals in the various classes. One set of estimates is as follows: 1

<table>
<thead>
<tr>
<th>Animal</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Camels</td>
<td>1,156,000</td>
</tr>
<tr>
<td>Goats</td>
<td>2,135,000</td>
</tr>
<tr>
<td>Sheep</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Horses</td>
<td>12,185</td>
</tr>
</tbody>
</table>

No estimates are available as to the number of chickens or swine. It is known that there are very few swine. The Mission believes that the estimate for numbers of horses is much too large because in the Nogal Valley, where the heaviest horse population existed prior to 1940, there are reputed to be almost no horses now.

It is probable that as has been found elsewhere in Africa, the estimates of total populations for cattle, camels, sheep and goats are far too low. Indeed, the annual export of hides and skins, plus a fairly substantial internal usage, would lead one to believe that they are.

In the discussion of livestock this Mission will concern itself with the problems of camels, cattle, sheep and goats. Chickens, and swine will be mentioned very briefly. Horses and donkeys will not be discussed.

At the present time the distribution of cattle is largely confined to the better watered natural pastures along the coast as far north as Obbia, the areas along the Juba and Webbe Shibeli Rivers and between the two rivers, and about the southern half of the area west of the Juba River. Goats and sheep are common over the entire territory. Camels also are widespread over most of the Territory except for that portion west of the Juba and south of about 1 degree north latitude. Generally speaking, the livestock population is very sparse from the Nogal Valley north to the Gulf of Aden.

The livestock of Somaliland provide the Somali with many of the primary items for his existence. Cattle provide the Somali with milk, meat and hides and also provide hides and ghee for export trade. They are used as a beast of burden only in limited areas, the only such use being noted was south of the Juba in the Afamdu locality. Only two or three instances were noted of their being used as draft animals, and this was by Arabs. Camels (dromedaries) provide the Somali with milk, meat and hides and are the extensively-used beast of burden. They are very rarely ridden. The only items they provide for export trade are low-value hides, and camel grease. Goats provide the Somali with meat, milk, skins, and the skins are a valuable item for export. Some ghee is also made from their milk for export. Sheep provide the Somali with meat, limited amounts of milk, fat and skins. Sheep skins are a valuable item of export trade.

Substantial improvements are possible in the breeds and in the methods of handling the livestock. These will be discussed later.

It is possible that a shift in the classes of livestock being produced will add to the economic wealth of the country. For example, it would be desirable from an economic point of view to shift from camels to cattle in the areas of the Juba and Webbe Shibeli rivers and to the west of the Juba. Camels do not contribute materially to the economic advancement of Somaliland because their present exportable products are only low-value hides and camel grease. Even if efforts at marketing such by-products as blood-meal, meat meal and glue became successful, the direct contribution of camels will not be great. Cattle, on the other hand, produce meat and hides that are in much wider demand in world markets. Strong effort at shifting from camels to cattle should not, however, be undertaken until better management of the natural pastures and greatly improved water facilities are brought about, because cattle cannot subsist under the same rigorous conditions as camels. The welfare of the Somali is too dependent upon the camel to do much until stable production of other types of livestock can be assured.

A shift from goats to sheep or cattle might also seem desirable, at least from the standpoint of regeneration of shrubs and trees and from the standpoint of exportable supplies of meat. This step, too, should be taken with a great deal of caution, because in many areas the Somali cannot keep cattle either because of disease or because of the type of forage in the natural pasture. Here, the Somali relies on the goat for milk and meat. Doubtless, another reason for keeping goats is that goat numbers can be increased much more rapidly than either cattle or camel numbers after a drought. The major effort should be to keep the goat population in balance with other classes of livestock and with the forage supply.
1. Breeds and breeding of livestock

The breeds of cattle, camels, sheep and goats in Somaliland can all be said to be indigenous. At various times European breeds have been introduced, but they brought about any alteration in breed it was so small as to be negligible. Breed improvement can contribute much to the economic welfare of the Territory, but it must be emphasised that any work of this kind will be of little avail unless the yearly plane of nutrition is improved.

a. Cattle

The cattle of Somaliland have in common, to some degree, zebu characteristics. Generally speaking, various people have classified the cattle into Giddu, Gherra and Boran types. To say that these types are distinct is a gross misstatement. Though there are general races, a general mixture is more prevalent with an extremely wide gene base as to colour, conformation, presence or absence and size and shape of horns, and other features.

The primary basis of selection in each of these three races has been ability to survive. Much more attention has been given to milk producing qualities than to beef conformation, because there was no desire to sell, and the present carcass was good enough to satisfy their own needs. Even with this crude basis of selection, some rather good groups of cattle have been developed which the Mission believes offer definite possibilities for improvement.

The Mission recommends, before much work is done in breed improvement, that primary attention be given to achieving better livestock nutrition.

At the present time the livestock of Somaliland exist on sub-maintenance rations for sustained periods at least once each year and often twice. They are entirely dependent upon the forage from natural pastures. Until the nutritional level can be raised, it is felt that efforts at breed improvement would have little appreciable effect. Steps should be taken to raise the nutritional level through the better management of natural pastures and through the production and utilization of livestock feeds. These will be discussed later in this section of the report.

The Mission recommends that the primary objective in cattle improvement be the development of dual purpose animals for use by indigenous peoples, and that the program be based on selection from indigenous breeds rather than through introduction of breeds from other countries.

To fit in with indigenous agriculture or livestock production it is essential that cattle improvement work seek to develop cattle that have reasonably good beef producing qualities and produce ample milk for human needs as well as the rearing of a calf. The former is highly essential if the excess animals are to find a ready market as beef either within the country or processed for an export market.

It is felt that more progress can be made by selection from indigenous breeds than through the introduction of breeds from other countries. In the first place, among the indigenous races there are animals that possess very desirable characteristics. These show that a programme of selection could be very effective. As evidence of these desirable characteristics, it is interesting to note that the Veterinary Department and private breeders in Kenya have been working on two of Somaliland's indigenous breeds. The Boran, which is prevalent in many places in Somaliland as well as in Kenya has been improved to where it is now recognized as a definite beef breed. It is probable that starting again from the indigenous Boran race it would be possible to develop a dual purpose type. The specimens of Giddu, which was originally only a Somaliland race, were imported into Kenya where they are called "Serenle", and breed improvement work is starting. This race doubtless could be developed toward the dual purpose side because it now possesses reasonably desirable milk production and beef conformation. Likewise, the Gherra, the third indigenous race in Somaliland, could be developed for a dual purpose animal.

Another major reason for working with indigenous breeds almost entirely in a cattle breed improvement programme is that these animals have developed during many decades under conditions of high heat and humidity, poor forage, widespread disease and lack of water. Their resistance to these conditions and their ability to survive should not be cast aside. Moreover, no one knows the potential of these animals until they have been put on an adequate plane of nutrition.

A strictly milk breed of cattle may be needed for use in urban areas such as Mogadishu or Kismayu or for limited use on European farms. Plane of nutrition will need to be high. The only places where such conditions exist are those where feed or forage can be purchased, or where it is produced under irrigated conditions. Unfortunately, most of the irrigated areas are also within the tsetse-infested areas and the cattle must be kept within screened barns to prevent loss. Even so, there may be a small but essential place for milk-type cattle. These also should be developed by selection from indigenous breeds, with possibly the introduction of some other tropical breeds. The development of a milk-type breed of cattle is, however, of relatively low priority.

b. Goats

There are considered to be two general types of goats in Somaliland. One is smaller, gives less milk and produces less meat than the other and can exist where forage is scarcer. The color is primarily white on both types but with some mixture of brown or black, probably coming from Arabian introduction. It is evident that the Somali has placed considerable emphasis in selection on milk production. The skins produced by these goats are in high demand on the world market.

Breed improvement of goats is believed by the Mission to be of low priority. The present indigenous types seem satisfactory. The only possible change would seem to be the introduction of the Yemen black goat with the purpose of producing a pelt with black curly hair that is in consider-


117
able demand in the London market as "Black Yemen Lamb". Such a move should, however, be explored rather carefully.

c. Sheep

The sheep of Somaliland are primarily of the Blackhead Persian fat-tail race. This race is remarkably well adapted to conditions in Somaliland. It is a very hardy and prolific animal with reasonably good mutton conformation. Its skin is an item of considerable value for export.

Breed improvement of sheep is believed by the Mission to be of low priority. It seems very well adapted to Somaliland and for the uses the Somali wish to make of it. The Union of South Africa has done considerable work on this breed and the possibilities of importing some of their outstanding rams is worthy of investigation. But in so doing, it should be recognized that the rams in South Africa may have lost some of their resistance to the high humidities that characterize Somaliland.

Two other possible courses of action have been suggested. One is the introduction of the Karakul breed. This work has already begun at the Societa Agricola Italo-Somala farms at Villaggio Duca degli Abruzzo. It is the Mission's feeling that even if the Karakul or a Karakul-Black Headed Persian cross were adapted their production is not to be turned over to the Somali. Production should be under European guidance.

The other possibility for improvement of sheep that has been suggested is the introduction of wooled breeds for use in the northern part of the Territory where humidities are lower than in other parts of Somaliland. The feasibility of this move needs careful study.

d. Camels

The three types of camels in Somaliland are the Galgail, Gherra and Elai. They have been developed by the indigenous peoples in different parts of the Territory. Breed improvement in camels, the Mission believes, is not justified. The present breeds have been developed along the lines that would meet the needs of the indigenous peoples. Opportunities for increasing their contribution to the economic welfare of the Territory by breed improvement do not appear to be very great. Improved disease control and improved water facilities will probably do as much as is necessary.

e. Swine

There are very few swine in Somaliland at the present time, probably as a result of the predominance of the Moslem religion among the indigenous people. There are, however, possibilities that swine production could be increased, utilizing such surplus produce as bananas from European farms. Because of dangers to public health, the production of swine should be under strict European supervision.

f. Poultry

Chickens are fairly common around the towns and settlements of the sedentary and semi-nomadic peoples. Doubtless, they contribute to the nutrition of the Somali as well as to the European population. At the present time the Administering Authority is devoting some time to breed improvement. The Mission did not devote any time to the study of this phase, but it is probable that breed improvement and improved care of chickens could contribute to improved human nutrition of the Somali peoples as well as in a small way to the export trade. The Mission believes that the Administering Authority should continue their efforts in this field.

2. Research in livestock breeds and breeding

The Mission recommends that the primary emphasis in research on improving breeds of livestock be initially on the development of dual purpose breeds of cattle. Later some emphasis on a milk-breed may be desirable.

This research would involve a careful study of the three indigenous races of cattle; the selective breeding of these races for the qualities of beef and milk production desired in the various areas served; the finding of animals or blood lines of superior potentialities; and, once these have been found, the maintenance and improvement of these lines.

Following the discovery and satisfactory improvement of these lines it would be necessary to build up the herds of these animals for distribution to the Somali. The possibility of bull camps and of artificial insemination should be kept in mind as means of accelerating improvement of the Somali herds.

3. Methods of handling livestock

Very little clear information was secured about the methods used in handling livestock. Officials of the Trusteeship Administration did not have the information, and the spot checks made by the Mission with various chiefs and herdsmen gave rather inconsistent information.

a. Number of bulls and rams

From information received from the chiefs of various tribes, the number of bulls used per 100 cows ranged from two to five. Many of the chiefs seemed to favor the lower number. In several places it was stated that the methods of selecting bull calves to retain as herd sires was to keep those from dams that were good milk producers. On the other hand, it is almost certain that in many cases color or some other external feature of appearance is the dominant factor in selection of the bull calf to keep.

Male calves which are not to be kept as herd sires are castrated at from three months to three years of age. The Mission was told that these young bulls may be kept in the herd to an even greater age before they are castrated. As a result, they frequently pass on their undesirable characteristics to numerous progeny before they are castrated. Tools used in castration vary from knives to sticks and rocks.
The estimates on number of rams kept per 100 sheep or 100 female goats likewise varied widely from two to five. No definite information was secured on method used in selection.

b. Calf, lamb and kid crop

Here again the statements varied widely. Generally the calf crop estimates per 100 cows of breeding age ranged from 40 to 50, the lamb crop from 60 to 90, and the kid crop from 70 to 150 per 100 females of breeding age. In the case of goats the variation was wide, because in some areas it was stated that two crops of kids could be secured per year, whereas in other areas it was stated that only a single crop could be secured.

The age at which calves and kids were weaned also seemed to vary quite widely, probably dependent upon when the milk supplies for human consumption became rather short. It is obvious that the needs of the humans for milk will result in calves and kids being weaned much earlier than is desirable from the standpoint of growing them out.

c. Frequency of watering

This varied widely depending upon the succulence of the forage. The clearest statement of frequency of watering was found in a report on British Somaliland\(^1\), where it was stated that camels on green grazing can do without water from two to three months, on dry grazing 13 days; sheep on green grazing can go two or three months without water, on dry grazing three or four days; goats on green grazing can go two to three months without water, on dry grazing three to four days; cattle can go only two to four days without water.

d. Salting livestock

The only salt secured by animals in Somaliland is that secured from salt licks, salt grazing or brackish water. Salt grazing is especially important for camels, with the result that frequently the Somali people arrange movements of camels so that the camels can graze occasionally on species of Sueda or Salsola. From what can be seen of the appearance of the country, there are periods of the year, especially when the livestock are grazing on alluvial soils, when some supplementary salt might be used to advantage.

e. Improvement in methods for handling livestock

The Mission recommends that the Administering Authority study methods of handling livestock employed by the Somali peoples with special reference to understanding the reasons for the methods employed. Then on the basis of the knowledge they acquire, a program of improvement in methods of handling should be drawn up and undertaken.

From what the Mission was able to see, there is considerable logic in some of the indigenous methods for handling livestock, especially when the hazards of drought, disease, inadequate water and poor forage are considered. These methods are not to be cast lightly aside in preference to more advanced methods developed elsewhere in the world. There may be some possibilities for improvements even under existing grazing conditions, but in many cases the conditions under which the livestock production is taking place will first need to be altered.

It is obvious that there are many opportunities for improvement, especially in castration methods, care of breeding males, age of weaning, care of the weaned animals and several other practices.

B. Forage and feed resources of Somaliland

The forage and feed resources of Somaliland are almost entirely provided by the forage on its natural pastures. Only near Bender Cassim was an instance of flood-irrigated pastures noted. In addition, some use is made of the crop residues from sorghum and maize, but percentage wise this makes up a relatively small proportion of the total requirements for the present livestock population.

1. The natural pastures (range)

It is probable that 80 to 90 per cent of the total land area of Somaliland, or from 80 to 90 million acres, is used as natural pasture. The only parts of Somaliland which cannot be considered as natural pasture are the relatively small tracts under European cultivation, the somewhat larger areas that each year are cultivated by the Somali (sciamba), the active or moving sand dunes along the Indian Ocean and the Gulf of Aden, and some dry saline lake bottoms in the Mudugh and Midjurtein provinces.

The major portion of the natural pastures may be classified as arid or semi-arid with an annual precipitation of from 8 to 12 inches. Parts of the northern portion of the Territory are distinctly more arid with precipitations as low as one or two inches annually. There are, on the other hand, substantial portions of the Territory near the Indian Ocean from Mogadishu south, between the two rivers, and in the southern portion of the section of the Territory between the Juba River and the Kenya border where the precipitation ranges from 15 to 30 inches annually.

Ownership of the natural pastures is vested in the various Somali tribes. The land controlled by a tribe is a communal holding, and each member of the tribe has the right to graze livestock on the land. Apparently there is no restriction as to the number of livestock an individual or the tribe may graze.

Relatively little is known about the pasture lands, their productivity, conditions and use. No survey has been conducted, and the present Administration lacks anyone who knows the plants and their grazing values for different classes of livestock.

During the time that the Mission was in Somaliland it was not possible, in view of the difficulties of transportation, to get more than a general view of
the natural pastures in various parts of the Territory.

a. General vegetation types

Most of the natural pastures can be classified within a single general plant formation; the Acaciacommiphora scrub formation of Glover\(^1\)/ or the deciduous desert grass shrub of Edwards\(^2\)/ and Gilliland.\(^2\) Even though the natural pastures can be classified in a single formation, there are many different plant associations, and within each association there are many different communities. Thus there are extremely wide variations in the appearance and productivity of the vegetation in different parts of Somaliland. In general the productivity grades from very poor in the north to good in the south along the southern coastal strip and in the interior around Iscia Baidoa and Uegit.

The major factor causing differences in appearance and productivity is amount of annual rainfall. Natural pastures in the lower Outer Juba and near Iscia Baidoa, where the precipitation is about 25 inches, have much taller shrubs and a much heavier cover of perennial grasses between the shrubs than pastures near Lugh Ferrandi, Dusa Mareb or El Bur where precipitation is from 8 to 12 inches. Distribution of precipitation through the year also plays a strong part. Along the coastal strip from Obbia to the Kenya border, where the precipitation appears to be rather well distributed from March through November, the productivity of vegetation is better than where similar amounts of precipitation fall during only the "Gu" and "Der" periods. Likewise, the flood plains along the Juba and Webbi Shibeli Rivers with their alluvial soil are superior in productivity to the residual soils adjacent that are not flooded.

Doubtless, the widespread use of fire by the Somali to open up the scrub, to get rid of wiry dead grass, to eliminate tsetse habitat or for one of many other reasons has had an important part in the present appearance and grazing capacity of the vegetation. Moggridge\(^4\), speaking of the area near Genale, stated that bush fires of great intensity sweep through the country during the dry season. Marks of past fires are widespread throughout Somaliland wherever there was fuel enough to carry a fire, and during the progress of the Mission's trip during September, several fires were seen burning in the bush.

b. Natural pasture condition

To assess the present productivity of the natural pastures with respect to their potential is difficult without a much more complete know-

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\(^{3}\) Gilliland, H. B., op. cit.

ledge of the ecology of the vegetation types. One does not, however, need very detailed information to see that the natural pastures near permanent water (except for tsetse infested areas) are badly overgrazed. Most or all of the perennial grasses are gone, the palatable shrubs are badly hedged or dead, and the ground between such relatively unpalatable shrubs as some of the Acacias is bare and packed. In some cases shrub invasion of grassland areas was noted. In other areas noticeable accelerated wind and water erosion is clearly evident. All of these are the product of overgrazing.

Several statements have been seen that attributed damage around permanent waters to trampling rather than overgrazing of the vegetation. This is unlikely because overgrazing of the more palatable parts of the vegetation almost always precedes damage from trampling.

The condition of the natural pastures in the dunal strip along the Indian Ocean from at least Kismayu to Obbia, or perhaps further north, deserves special attention. This dunal strip is generally in an overgrazed condition, probably as result of the combination of permanent water supplies both on the ocean and landward side, a good distribution of precipitation during the months of July, August and September when most of the rest of Somaliland is without rain, and the location of sedentary peoples along the ocean and inland. Active wind and water erosion are striking near such communities as Merca and Brava, and doubtless the same things could have been seen in many other places along the coast.

Another section of Somaliland that deserves special mention is the area from the Nogal Valley northward to the Gulf of Aden. It is understood that this section has undergone a sustained drought of perhaps as long as ten years, broken only in the spring of 1951. Weather records are not available to bear this out, but if the appearance of the vegetation near Bender Cassim, Gardo and Alula is to be taken as indicative, the area has suffered seriously. Vast areas of completely bare ground with a desert pavement of rocks were seen between Bender Cassim and Galgalo. The Mission was told that 75 to 90 per cent of the livestock population had starved during this period. Doubtless, all available plants were consumed before the livestock starved to death, so that the present appearance of the area is the combination of drought plus over-use during the drought. This has been the story in many other parts of the world. As result of the damage during this period, it seems likely that for many years much of the Midjurtein will not support many livestock.

The desert locust (Shistocerca gregaria) which frequently plagues Somaliland in migratory form must have some effect on the condition of the natural pastures. There does not, however, appear to be any recorded information on its effect on them.

In many sections of Somaliland the shifting cultivation of shambas has had a substantial effect on the appearance of the vegetation and often on the productivity. For example, near Bulo Burti, the Mission was told that the Somali could cultivate a sciamba for six or seven years. Then it had to be abandoned for a period of years. During the time of its cultivation and for some time afterward it was evident that wind erosion was rather severe during the southwest monsoons. This use and abandonment of shambas
when seen from the air, embrace rather extensive tracts of land and no

doubt affect the condition and grazing capacity to a considerable extent.

In areas of more favorable moisture conditions, the clearing of the bush,
cultivation for a few years and then abandonment may actually result in
more grass production than was the case in the uncultivated state. But
in other areas, where precipitation is lower or less certain and live-
stock pressure is heavy, the cultivation and abandonment of the shambas
may lower materially productivity of the natural pastures and cause rather
serious soil depletion. More needs to be known about the effects of this
shifting cultivation on productivity of natural pastures.

c. Management and grazing use of the natural pastures

The management and grazing use of the natural pastures is governed
primarily by the amount and seasonal distribution of the precipitation,
and by the amount and location of temporary water supply. Management,
if there is such in a modern sense, is more or less fortuitous, because
use is primarily governed by the quest of the Somali with his livestock
for water and forage. There is some difference in the way the nomads,
semi-nomads or sedentary peoples use their pasture.

The way in which the strictly nomadic peoples graze their pastures has
been best described by Hunt.1/ It is believed that his statements apply
to Somaliland reasonably well. When either the "Gu" or "Der" rains come,
the tribes with their livestock leave the permanent water and spread out
till their grazing needs are satisfied; during the dry season they con-
tract back to the permanent water. The dates that these movements take
place are irregular, depending upon when the rains start, when the tem-
porary waters dry up and when the forage in the rainy season areas is
exhausted. When rain begins to fall, scouts are sent out from the tribe
to prospect. They note the distribution and amount of rain, the position
of unfriendly tribes, and they attempt to secure the best grazing for
their own tribes. The tribe stays in this general area as long as possi-
bile; the women, children and flocks of goats and sheep are the first to
go back to permanent water, lest later rains fail, and they become too
weak to get back to water. The men with the camels come back later.

The primary factors governing migrations in the order of their im-
portance are water and grazing, salt, transport, temperature, inter-
tribal feuds and friendships, natural barriers, stock diseases, human
epidemics and, lastly, administrative direction.

In making this migration the nomad may cross the tribal grazing
grounds of many other tribes. For example, it is known that the Galgail
tribe, whose tribal grazing ground is south of Bulo Burti, sends its
camels grazing through the tribal areas of the Elai, Eile, Tumni and
Bimal tribes, often ending up during the December or January near Kis-
mayu.

The semi-nomadic group with semi-fixed settlement for most of their
peoples during much of the year will have the major part of their livestock

1/ Hunt, J. A. Report on General Survey of British Somaliland, 1944. Mimeographed
report on file in Office of Chief Secretary, Hargeisa, British Somaliland.

124
migrating pretty much as the nomadic group do, but they will keep part of their essential milk, meat and burden animals close to the settlement. The flocks and herds are taken out each morning and brought back each night, or they may go out one day and come back the next. In any event, this results in severe over-use of the area around the settlement by the livestock kept near by, plus extra over-use during the periods that the migratory livestock are brought back toward the semi-permanent water. Then, when the wells or water supplies in the settlement dry up, the entire group with their livestock may move to permanent sources of water, often long distances away.

The sedentary groups such as those at Kismayu, Bur Acaba, Margherita or Bulo Burti graze their livestock in a different manner. Many of the sedentary peoples have at least a few goats, sheep, some cattle and possibly some camels. These they keep near the settlement, assembling them in communal groups and turning them over to a paid herdsman to take out in the morning and bring back each night. Those with more livestock than needed for their use or for producing milk for sale also assemble livestock into communal groups and send them out away from the village to migrate much the same as the migratory groups.

The impact of the animals of the semi-nomadic and sedentary groups on the grazing around the settlements is believed to be much more severe than that of the migratory groups, because there is no rest for the pastures near permanent water. Extreme damage can be seen around some of these settlements.

d. Climate as it affects management

Since availability of water and forage are the two major factors influencing migrations of the nomads and semi-nomads with their livestock, and since permanent water supplies are extremely scarce in Somaliland, it is clear that precipitation in any one year or portion of the year is the dominant factor influencing the management of the pastures.

Variations between years in the amount of precipitation have been found, in studies all over the world, to result in major variations in forage production. Even though there are no records in Somaliland of the variations in forage production from year to year, the variations in precipitation at a few selected stations will be indicative of what might be expected.
The variation in "Gu" rains from 1.22 inches in 1945 to 6.17 inches in 1947 at Belet Uen, from 1.30 inches in 1944 to 4.42 inches in 1946 at Galcaio, and from 10.05 inches in 1945 to 1.59 inches in 1946 at Bardera give a striking example of the variations that can be expected. It is probable that forage production may vary almost as widely, if not more.

Over much of Somaliland there are two distinct periods of precipitation, the "Gu" and the "Der". The rains during either period are sporadic, coming typically in torrential storms that may cover a small area. Such a rain may cover a belt only three or four miles wide, and the adjacent areas get no effective rain. These sporadic local rains are followed by the nomads, and this factor must be recognized.
Moreover, neither the "Gu" or "Der" rains start promptly on time and the "Der" rains may be absent as in 1945 at Galcaio. (Table, p.) This may result in a prolonged stay at or near permanent water which in turn results in considerably more damage to adjacent pasture, and serious losses of livestock may result. If the water supplies fail, as they did at Af'madu in the early part of 1951, a long trek to other permanent sources of water is started with serious consequences to livestock and the peoples. In Af'madu it is estimated that one-quarter of the total cattle population was lost early in 1951.

Climate is also a major factor in influencing the class of livestock grazing an area. Since cattle require water approximately every three or four days, they cannot be grazed during the wet season in areas remote from either temporary or permanent water. During the dry season they are restricted to a zone not more than one or two days' grazing away from permanent water. As a result, with the present poor distribution of permanent water, there are extensive areas where it is not possible to graze cattle. Goats, sheep and camels, because they can exist for two to three months without water when the forage is succulent, can utilize extensive areas during the green feed season. When the forage becomes dry, the goats and sheep will be restricted in grazing to a zone extending one to two days out from temporary or permanent water. Camels, on the other hand, can utilize pastures much farther from water during the dry season because they require water much less often.

e. Influence of disease danger on the management of pasture

Large tracts of natural pasture on either side of the lower Webbe Shibeli and the Juba Rivers cannot be used by cattle because of the presence of tsetse fly and the danger of trypanosomiasis with resultant high death loss. During the rainy season this belt may extend out as far as five or six miles from the rivers, but during the dry season it may contract to a much narrower belt. Thus, most of the pastures along the lower parts of the two rivers are used only during the dry season except for some places such as Margherita where intensive cultivation along the river has eliminated the tsetse habitat, or where the vegetation adjacent to the river does not provide satisfactory habitat.

It is said that cattle can be brought in to water at the rivers where the tsetse is present, provided that watering is done at night and the cattle are outside of the tsetse belt during the daytime. We are told that this practice is being followed by some of the Somali at Avai on the Webbe Shebeli, and it doubtless is being followed in many other places.

It is stated that excessive losses from trypanosomiasis in camels, in that portion of the Somaliland south of about 1 degree north latitude and west of the Juba River, is responsible for the lack of camels and the preponderance of cattle. Apparently the vegetation in this region is exceptionally satisfactory habitat for the tabanid (Tabanus spp.) which transmit trypanosomiasis to camels. Here the Somali have
had to turn to raising cattle and were using them as beasts of burden by necessity rather than choice.

f. Improvements in natural pasture (range)

Its natural pasture lands are and will continue to be Somaliland's major natural resource. Since the level of nutrition of its livestock and, therefore, their productivity is inextricably linked to the quality and use of natural pastures, the Mission feels that early steps must be taken to ensure better livestock nutrition and maximum sustained livestock production through improved pasture use and management.

i) The Mission recommends that as the first step in obtaining the fullest sustained use of the pastures and the maximum sustained production of livestock grazing thereon a survey be made of the natural pastures of Somaliland, their soils, and their present livestock use.

Data on the soil and vegetation, the present condition of forage resources, tribal rights and patterns of use are needed to permit preparation of intelligent grazing plans. Moreover, they are also needed to establish desirable locations for wells (boreholes), uars, ballehes, and other types of water developments. Moreover, they are needed to determine the locations of potential agricultural land.

To make such a survey it is extremely desirable that at least one individual be secured who is well-trained in plant ecology and who has had experience elsewhere in Africa in making surveys of natural pasture or range. He should have at least two assistants with training in plant ecology; one should have received his training in an African University and the other can have received his training elsewhere. Preferably, one or both of these two should be Italians.

The well-experienced individual as chief of party should outline the procedures to be used, start the survey and stay at least one year until his assistants are well-trained and can continue the work. These two men, plus one or two Somali assistants, should continue the survey until all of Somaliland is completed. They would be responsible for the preparation of the grazing plans, including the pointing out of desirable general locations for water. (The location of water, itself, must be done by modern geophysical techniques.)

Looking forward to the time that the Somali will be administering the country, it seems that an essential part of this work would be the training of Somali assistants. Literate and adapted Somali, preferably from the residency or commissariat within which the survey is being conducted, should serve as apprentices in the conduct of the survey, especially in the survey of tribal rights and patterns of grazing use. Then, after the plans are prepared, the Somali assistants could remain in the residency or commissariat
as grazing assistants.

Since experienced or well-trained European personnel for this type of work are not available within Somaliland, such men must be recruited from elsewhere. The Mission, therefore, suggests that the Italian government avail themselves of such help under the Technical Assistance program of the Food and Agriculture Organization of United Nations.

11) The Mission recommends that plans for management of grazing should be drawn up based on facts secured from the survey. Those preparing the plans should work closely with the Residents and the chiefs of the tribes concerned. It cannot be over-emphasized that considerable care needs to be exercised to get full participation by the tribal chiefs in the preparation of the plans and to solicit their ideas regarding what needs to be done and what it is feasible to do.

Since such a plan will be viewed with suspicion by the chiefs as well as tribal members, it is important that the chiefs of the tribe be encouraged to participate in the planning of the grazing. It needs to be pointed out to them that these plans are only a step in eliminating part of the hazards in livestock production and will be the basis for securing needed water developments, perhaps intensive disease control, dipping vats or other desired improvements.

Grazing plans, to be workable, will need to be prepared by units, either comprising the full tribal grazing grounds, where these are reasonably well-defined, or natural conservation units where several tribes may be grazing. For these units it is suggested that the plan set up the proper number of livestock to graze, locations of needed water developments, location of rainy season and dry season grazing, possible closures of grazing around permanent water, during the rainy season and any other measure aimed at improving livestock and forage production. Caution must be used to avoid making the plan so inflexible that it would become unworkable in years of poor distribution of rainfall.

It is suggested that as early as possible after the survey is started, perhaps at the end of the first year, two or three of these plans be drawn up for areas where, because of good tribal leadership and well recognized tribal grazing rights, the plan has a better than average chance of being accepted by the Somali and followed. Then these plans should be put into effect in an experimental way and the lessons learned from one or two years of operation used in the development of subsequent plans. At best, to get nomadic or semi-nomadic groups to accept and follow grazing plans is going to be a difficult task, and so far as the Mission is aware, unexplored. It is, therefore, essential to make haste slowly.

iii) The Mission recommends that as the next step in bringing about the maximum sustained production of livestock it is essential that the numbers of livestock be adjusted to the grazing capacity
of the natural pastures. In some cases, as in the dunal strip along the Indian Ocean, this will mean a reduction; where only additional water supplies are needed and there is ample forage, it may mean an increase.

Adjusting numbers of livestock to the grazing capacity of the pastures can do much for improving livestock production. It has been proven in numerous studies throughout the world that conservative grazing of natural pastures (stocking at the level of grazing capacity) results in the production of the maximum production of beef per acre over long periods of time. This principle will, however, be of little avail as long as the emphasis by the Somali is on numbers of animals rather than beef and milk production.

The crux of achieving proper stocking of the natural pastures lies first, in the provision of adequate markets for live animals and second, in convincing the Somali that he should market the annual herd increase plus any excess animals that he now possesses. Thus, it can be seen that establishment of adequate markets for live animals, combined with a strong extension or educational programme are essential parts of achieving the proper stocking of Somaliland's natural pastures.

In setting grazing capacities for natural pastures there is no information available locally that would be useful. Even in the adjoining territories no studies have been conducted on similar types of pasture land. Some estimates have been made. For example on the Suk reserve in Kenya it is estimated that 50 acres are required per beast per year.\(^1\) In British Somaliland on vegetation types somewhat similar to those in Somaliland, Glover estimated that 20 acres of Nogal type vegetation would be required per sheep or goat per year; in the Haud type 10 acres would be required.\(^2\) In view of the lack of specific information, at least short-time studies are needed to set up approximate grazing capacities.

Grazing capacities, assigned to any area in Somaliland, must take into account the wide variations between years in April, May, June ("Gu") and October, November ("Der") rains. Climatological records are extremely inadequate, but the precipitation data in Table (p. 126) exemplifies the hazards in using capacities based on the good or even the average year.

It is also essential that grazing capacity estimates be made on the basis that there will be common use in most cases by three classes of livestock and, in some cases, by all four classes. It is difficult to see, where a single owner usually has camels, cattle, sheep and goats, how it is going to be possible in the foreseeable future to get grazing by only a single class of animal.

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2/ Glover, P. E. op. cit.
The lack of reasonably reliable data on the present numbers of livestock in any grazing unit will be a major obstacle in establishing grazing capacities. How to secure these data is going to be a major problem.

Another problem which may come up in the future and which should be considered in the stocking of natural pastures is that the Somali possesses a strong tendency to purchase additional livestock with income he receives from cash crops such as cotton. It is conceivable, therefore, that an enlarged cash crop program in Somaliland will cause additional livestock pressure on its natural pastures. Consequently, it is essential that any move toward a vastly expanded cash crop program be attended by strong efforts to induce the Somali to convert this income into forms of wealth other than livestock unless the natural pastures can support more.

iv) Rotational closures around permanent watering places should be a very effective method for preventing the destruction of forage and attendant soil erosion around any new water developments as well as permitting the restoration of forage around present permanent waters. They will also be of distinct value in assuring better livestock nutrition during the period when livestock are at permanent water. Judging from the experience in Kenya and British Somaliland, where this type of practice has been employed, rotational or seasonal closures need careful and experimental trial. Here it has been found that overuse or willful trespass during the rainy season plus an abnormal influx of livestock during the dry season may result in damage rather than improvement of the forage and soil.

v) Other measures that might be used to achieve forage and soil improvement are shrub removal, reseeding of desirable grasses on badly depleted areas and elimination of the tsetse habitat along the lower Juba and Webbe Shebeli Rivers.

Shrub removal by fire or other methods has often been suggested. Careful study is essential to assure that forage improvement will be the result and not soil erosion, deterioration of grazing capacity and the unwise destruction of trees and shrubs. It must be kept in mind that the trees and the larger shrubs are essential as sources of forage for camels, and that the lower shrubs are essential as forage for goats. The larger trees and shrubs near settlements are also essential for fuel wood and building materials. Moreover, there are some vegetation types where, because of soils, drainage or other factors, the grasses may not increase even if the shrubs are removed. All of these factors serve to make shrub removal a hazardous measure at the present time and emphasize the need for careful study before its use is recommended.

Reseeding of badly depleted areas near permanent water and on abandoned shambas has also been suggested as a measure for improving grazing capacity. Nothing is known however, about the species of grasses to use, the season to plant or the methods that should be used in planting. Even if these facts were known, the experience in
other parts of the world has clearly shown that complete control of
grazing is essential to prevent destruction of the forage on the
newly-seeded areas. Consequently, the use of reseeding as a means of
restoring forage productivity must await the achievement of reason-
able control of grazing as well as completion of research on species
and procedures to use.

Eliminating of tsetse habitat in the lower Juba and Webbe Shibeli
River basins has also been suggested as a measure for increasing
usable forage supplies. In this respect, the following statement by
the East African Tsetse and Trypanosomiasis Research and Reclamation
Organization\footnote{East Africa High Commission. East African Tsetse and

"The economic aspects of any scheme of practical reclamation have
to be given first priority. The value of the land to be reclaimed
must be such as to justify the cost of reclamation, the use to be
made of it when free from tsetse must be such as to justify the
cost of keeping it free. These aspects of the problem were dis-
cussed fully at the Land Utilization Conference at Jos. In con-
nection with the use of tsetse areas for livestock development,
it was recommended that 'Pending further work on the more ef-
eective application of insecticides, either from the air or the
ground, and cheaper methods of clearance, the reclamation of
such tsetse-infested areas for African owned herds, maintained
on a primitive pastoral system of management would be uneconomic.
Where there is sufficient pressure of population to make tsetse
eradication by resettlement possible, large scale schemes are
justified and, in fact, essential; but without human settlement
consequent clearing of tsetse vegetation by farming, pastoral
schemes for African-owned cattle would be expensive to carry
out and almost impossible to maintain."

From this statement, it is clear that not much hope can be placed
on elimination of tsetse habitat except perhaps in extremely localized
areas of the lower Juba around Margherita.

\textbf{g. Administration of grazing on natural pasture lands}

In administering the natural pastures of Somaliland during the period
of Trusteeship Administration and afterward, the responsibility for care-
ful grazing management according to the plans developed must be placed on
the Somali peoples. The Mission believes that the most effective way for
doing this is to place the responsibility on the tribes through their
tribal chiefs. This will tend to build up tribal authority, but no other
practical way is seen to achieve proper use of the extensive pastures of
Somaliland.

As it may apply to any specific natural pasture area, there are two
ways in which this administration might be approached. First, in cases
where it is possible to establish individual grazing grounds for a single
tribe, the authority for keeping stock at the proper level, maintaining
closures around permanent water during the rainy period, protecting reseeded areas or carrying out other desirable practices would be placed on the tribe through its tribal chief. If livestock of other tribes were permitted to graze within this area, the chief would be responsible for enforcing their observance of the desired practices. Any contributions of labor or money for the improvement of wells, or the construction of dipping vats would also be made by the chief and he would be responsible for getting the contributions from his members. It will be essential for the chief, in consultation with his members, to decide how many livestock of each kind each member of the tribe will be permitted to graze.

The second way in which this might be carried out is through the establishment of grazing or conservation units, each having its own plan. Two to several tribes might pass through the unit. In this case grazing development committees would need to be formed, made up of reliable members of each of the tribes using the area; and these committees would in turn need to have a head member or chairman. Development of these grazing units would need to be carried out in conjunction with the representatives of the tribes using them.

These two suggestions may not be feasible, but it is clear that some such delegation of responsibility to the Somali is essential in the administration and management of natural pasture lands.

h. Research on natural pastures

Since very little is known about the natural pastures of Somaliland, their management or their restoration, it is obvious that fruitful research could be pursued in many fields. For the immediate future the Mission believes that research should be concentrated on those phases which are of major import from the standpoint of the practical side of getting better year-long nutrition of the livestock as well as maintenance of the forage supply.

The Mission recommends, therefore, this research on natural pastures in addition to a survey of the amount, location and condition of forage supplies, be aimed at the solution of such practical problems as the value of different plants for the various classes of livestock, grazing capacity, application of seasonal closures and the effects of climate on grazing management.

From the information secured from these studies can be devised grazing plans that will give reasonable assurance of adequate supplies of forage for the livestock during dry seasons of the year.

Much can be learned about the useful values of different plants for different classes of livestock by working with the Somali herdsmen. They have a good ability to distinguish the various species of local plants and know the avidity with which they are sought after by the different classes of livestock.

The Mission recommends that a system of weather stations and weather reporting be established in Somaliland. Data on precipitation and tempera-
ture are essential to the management of the natural pastures and to the production of agricultural crops. At the present time, most of the Residents are not furnished standard equipment for the measurement of precipitation or temperature. It is suggested that at least all Residents should be provided with this type of equipment and that a standard recording and reporting procedure be set up by the Administering Authority.

2. Feed resources

The production, preservation and use of other feed resources for livestock production in Somaliland is at a very low level. Only one case of the preservation of natural grass hay was seen. No preservation of grass or crop residue as a silage was seen. As far as is known, there is no utilization of such by-products from the agricultural crops as molasses or cottonseed cake. Essentially, the only feed resource being utilized at present is the crop residue remaining after harvest of sorghum and maize.

Increased production, preservation and utilization of other supplemental feed is essential to attain an improved plane of livestock nutrition. It will never be possible to so handle the grazing on natural pastures so that livestock nutrition is not low during the dry season. From studies conducted in other parts of the world it has been established that the nutritive value of grasses when dry is very low. Neither, in pasture management, will it be feasible to protect fully against the occasional year when the rains start later than usual or to guard against those years when the precipitation is far below average. The provision of other feed resources is essential under such circumstances.

Moreover, the increased use of improved pastures, hay, silage, or other feed resources is essential if carcass quality is to be increased beyond that which can be secured from natural pasture.

In view of the vital need for other feed resources to increase the yearly plane of nutrition of livestock, to make breed improvement worthwhile, and to improve carcass quality, the Mission recommends that the Administering Authority give considerable attention to the development of feed resources such as cultivated pastures, feed reserves and the utilization of agricultural by-products.

a. Better utilization of crop aftermath

The chief items of crop aftermath that could be used as livestock feed are durra (sorghum) and maize leaves and stalks. Only in a few cases was it noted that there was an effort to preserve these in stacks or piles for use by livestock during the dry season. In a very few cases it was noticed that the stalks were brought in to villages for use by the livestock. Generally they were left standing in the Shambas. Camels, cattle, sheep and goats usually graze through the shambas after harvest, utilizing mainly the green regrowth at the base of the stalks and knocking the rest down.

Even though these stalks are admittedly a roughage with low nutritional value, they would serve as an emergency feed during the time the areas around permanent water were completely grazed out, and it is be-
lieved that more could be done to ensure their preservation.

b. Utilization of agricultural by-products for stock feed

At the present time molasses and cottonseed cake are available. These could be used for livestock feed. The cottonseed cake is exported, but the sugar cane molasses was not being utilized. It is possible that the molasses could be used to increase the palatability of the sorghum and maize fodder and in conjunction with the preparation of grass silage. These feeds could be supplemented by the cottonseed cake in the form of pellets. Such a procedure will have only limited use, but its possibilities should be examined.

There is also a good possibility that the excess banana production could be dehydrated and used for livestock feed. If an increase in swine production should be found feasible and desirable, part of the excess banana production could unquestionably be used for the feeding of swine. Bananas have been found to be an excellent feed for swine. Information on this can be secured from Guatemala, Costa Rica, Hawaii, or the Veterinary Department at Kenya. 1

c. Preparation of hay or silage

There are opportunities for the preservation of excess grass produced in rainy season grazing areas or produced during years of exceptionally good rainfall either as hay or silage. This could then be used to supplement forage from natural pastures during the dry season or during drought years. Or it might be used for feeding the livestock that are kept in near settlements. In the latter case, hay or silage might be effectively used to feed the livestock during the time the badly overgrazed areas near the settlements were being given a rest.

C. WATER RESOURCES FOR LIVESTOCK USE

Water for livestock is provided by the two rivers, wells, uars, ballehes and a very few natural springs and lakes. All of the present wells have been dug by hand, mostly by indigenous peoples, and are usually less than 30 metres deep. Most of them are uncased and have no provisions at the well-head for keeping refuse and filth from running back into the well. Only a small proportion of these wells provide water all year. Temporary shallow wells are dug in the beds of rivers and uadies to intercept the underground flow, but these are destroyed when water is running in the uadies or rivers. The uars are artificial basins for the collection of run-off from rain water. These provide temporary supplies of water after rains. Ballehes (ballis) are natural basins in which run-off from rain water collects and, like the uars, usually furnish only a temporary source of water.

The number and distribution of watering points for livestock in Somaliland are extremely inadequate. This is clear from a map showing the distribution of wells and

1/ Correspondence should be addressed to the Inter-American Institute of Agricultural Sciences, Turrialba, Costa Rica, the Istituto Agropecuario Nacional (The National Institute of Agriculture), Guatemala City, Guatemala, C.A., or the Hawaiian Agricultural Experiment Station, University of Hawaii, Honolulu 14.
other types of watering points which was prepared in response to the Administering Authority's Circular No. 1118000, dated 16 September 1950.

The lack of adequate or well-distributed permanent water supplies presents a serious problem in grazing management. Even though the distribution of watering points is much better in the southern half of the Territory than in the north, there are many tracts of natural pasture from 500 to 1,000 square miles in area in the southern part without permanent water. These natural pasture areas can be used only during and shortly after the rainy season when forage is succulent or when temporary water supplies are available. This results in a serious unbalance of pasturage available during the rainy and dry seasons; that available during the rainy season is much greater than that which can be used during the dry season.

Not only is the lack of adequate permanent water supplies serious from the standpoint of rational use of the natural pasture, but it is also serious from the standpoint of indigenous peoples who are semi-sedentarized. Nearly all of the watering points used by livestock that have potable water are also used by humans, and the permanence of many communities depends upon the permanence of the water supplies. Certain agricultural communities, such as those around Bur Acaba, Janle Uen and Iscia Baidoa cannot have permanent habitations until year-long supplies of water can be secured. This means that many groups of the indigenous peoples who want to form stable communities cannot do so under existing conditions.

Water quality is generally not good, but apparently livestock and humans have developed resistance to many of the impurities it contains. The water from wells, uars and ballehes may be high in sodium, calcium or magnesium sulphates, carbonates and bicarbonates. To this can be added the organic pollution of nearly all water supplies. The public health aspects of this water are dealt with in the Public Health section of this report. (Section III).

Some steps have been taken by the Italian government before 1940 and by the Administering Authority since 1950 to improve the water supplies. Surveys of water resources have been conducted; one in 1929 and 1930 by Father Innocenzo da Alessandria and another by an E.C.A. Mission early in 1951. A modest well improvement program was carried on prior to 1940 and some work has been done since 1950.

Prior to 1941, trial was given to the use of geophysical techniques for water exploration, but the effort has not been carried far. Much more needs to be done. This method has been extensively used in south and central Africa, and there are several private companies specializing in this kind of work.

1. Improvement of water supplies

Improvement in the quantity and quality of water is one of the most essential phases of a development programme in Somaliland. It is needed to facilitate the orderly utilization and management of forage resources and to permit better livestock management; it is needed to permit the stabilization of certain existing communities; and it is needed to improve human health.

That the Italian government is well aware of the need for a water development is clearly evident. As early as 1920, development of water and drilling of wells were set up as a major objective, but it is not clear how much was done. During the period from 1936 to 1940 there was renewed emphasis and in
the Mudugh area alone it is reported that 200 wells were developed that made possible the use of forage areas previously unutilized. Then, in 1950, the Administering Authority submitted a project to E.C.A. requesting a very substantial sum to finance a water development programme.

The objectives of such programmes, as stated at various times, have been:

a. Permanent water supplies in regular pasture areas would permit nomadic or semi-nomadic peoples to become sedentary.

b. In tsetse-infested areas sources of water away from the rivers would be provided so that cattle need not be endangered by taking them to the rivers for water.

c. Additional sources of water would make possible utilization of forage resources in areas where seasonal water supplies do not make full utilization possible.

It is important that the Government realize that there are definite and serious hazards in a water development programme when dealing with natural pasture and nomadic and semi-nomadic peoples; this point does not seem to have been understood fully. A widespread water development programme should proceed only after careful study of the location and condition of forage resources, suitable land for crops where rainfall makes this possible, tribal movements and rights, and assurance that livestock numbers will not be increased proportionately to the increase in water.

It is essential to plan water developments with a full knowledge of tribal rights and movements. Wells must be located so that they do not cause strife between tribes. There is a fallacy in assuming that just because there is water, the need for migration will be eliminated. In some years the typically sporadic 'der' and 'gu' rains may not occur in the areas around the well, with the result that migration will still be essential.

It is essential to have full knowledge of location and condition of forage resources in planning water developments. There exists no such knowledge in any part of Somaliland. From observations made by members of this Mission, it is clearly evident that most areas near permanent water are badly depleted. Only in areas remote from permanent water is the natural pasture in good condition. Even though soil depletion may be occurring around present permanent water facilities, this is not sufficient reason for drilling wells or constructing reservoirs in pasture now utilizable during the rainy season under the assumption that this step will relieve the problem around permanent water. Such measures may only result in the ruination of the pasture around the new wells or the disruption of seasonal balance of forage unless location is preceded by a survey of present tribal grounds, seasonal movements of livestock and grazing capacities of the pastures. Care must also be exercised to see that watering points are not placed where erosion, resulting from the concentration of livestock, will be extremely severe.

Moreover, it is essential to know that livestock numbers will not be increased proportionately to the increase in water supplies. With the present resistance of the Somali to selling his livestock and the virtually complete
lack of markets for meat, it is almost certain that livestock numbers would in-crease if more water was available. Only serious drought or disease could then-be relied upon to reduce the numbers. Such an increase in numbers would result-only in the destruction of more of the natural pasture and an acceleration of-soil depletion.

Within Somaliland there are, however, many cases where improvement of-water facilities should be pushed without having at hand all the above facts. There are many communities such as Afmadu and Uanle Uen which in many years-are of the nature of permanent settlements, but during droughts the people-are forced to leave and travel long distances with their livestock to the-rivers or other permanent water supplies. There are also agricultural com-munities such as those in the vicinity of Iscia Baideo that cannot become-permanently settled until permanent water supplies can be secured. Moreover,-in nearly all of the permanent and semi-permanent native communities the wells-or other water supplies used are extremely primitively constructed and unsanitary-and, as pointed out by the Mission's Public Health Expert, are one of the major-factors underlying illness and death among the Somali. Therefore, where perm-ance of an existing community is disrupted by seasonal failure of water sup­plies and where water supplies are badly polluted, a programme of water devel-opment or improvement is fully justified.

To protect human health it seems essential that improvements or new de­velopments financed in whole or in part by the Administering Authority be con­structed to certain minimum standards which will prevent pollution of the water. Inasmuch as there frequently is resistance by the Somali to the use of water developments designed by Europeans, it seems essential to give careful study to the design of such developments. Unquestionably, Somali ideas should be brought into the design as fully as possible. Other types of design which might be used by the Somali are those developed in other countries and depend­ant territories in Africa. The Administering Authority should contact adjacent colonies to find out what they have been able to develop.

This Mission recommends, in view of the foregoing points, that a well or-water improvement programme be initiated in certain selected places where-stability of presently existing communities is essential, and where more pot­able supplies of water are essential to public health.

Development of additional watering points (wells, uars and ballehes) should be begun only after grazing management plans acceptable to the tribes concerned have been drawn up based on facts regarding location and condition of forage resources, tribal rights and tribal movements, and an assurance that sur­plus livestock can and will be marketed.

In the search for permanent supplies it seems essential that modern geo­physical techniques be employed in locating the exact sites for prospective wells. There are several private firms that could profitably be employed to determine locations. In addition, it is suggested that the Administering Authority contact the adjacent colonies of Kenya and British Somaliland to find out what they have learned about water-bearing layers in portions of their ter­ritories that lie adjacent to Somaliland.
Livestock diseases are prevalent in Somaliland. Even though no statistics are available, the information given by the veterinarians of the Veterinary Inspectorate makes it clear that several of the diseases cause heavy livestock losses. Trypanosomiasis, rinderpest and pleuro-pneumonia cause heavy losses in cattle; trypanosomiasis and intestinal strongilosis cause heavy losses in camels; and hemorrhagic septicaemia causes heavy losses in goats. Foot-and-mouth disease is endemic in cattle and only occasionally breaks out into epidemic form. Parasitic diseases are common. The incidence of livestock disease in Somaliland is described by Gadola.1

At the present time the Administering Authority maintains a modest veterinary service. The organization is hardly large enough to keep abreast of the work of controlling current outbreaks of rinderpest and trypanosomiasis. The Veterinary Institute (Sera and Vaccine Institute) at Merca prepares vaccines for rinderpest, smallpox and rabies, conducts laboratory diagnosis of livestock disease, and conducts research on the control of livestock diseases. The facilities and equipment at the Merca institute are antiquated and need to be replaced. There are field veterinarians in most of the commissariats. They are in charge of mobile units that travel around respective sections of the country giving vaccinations against rinderpest, and giving injections of antrycide or antrypol to cure trypanosomiasis. They also perform other veterinary services in addition to being charged in some places with the responsibility of meat or carcass inspection at the local slaughtering places or abattoirs.

The field veterinary service is performing a very valuable function in their contacts with the indigenous peoples.

1. Disease control improvements

The field veterinary service and the Merca institute are performing a very essential function in Somaliland. Their work is proving an excellent means for contacting the Somali and enlisting his support. It is possible that the work in the field may be instrumental in enlisting other progressive steps in livestock production and natural pasture management.

The Mission recommends, therefore, that the veterinary services be continued at a slightly expanded rate, and that the facilities for producing vaccine and sera at Merca be modernized in keeping with the Territory.

It is essential, on the other hand, that any major improvement in disease control be correlated with a programme to sell the surplus animals and the annual herd increase. At the present time, canned meat will essentially be the only form of meat that can be exported to most countries because of the presence of rinderpest and hoof-and-mouth disease. Even then some countries may prohibit the import of canned meat. If rinderpest could be stamped out, the possible markets for meat as live animals, fresh or frozen meat, or canned meat would be increased. It is possible that a market for live animals could be found in southern Asia or in the Mediterranean countries. Because of these factors, it may be desirable to increase disease control activities as a means

for increasing marketability of the meat, but not before reasonable assurance of markets and the willingness to sell can be established.

The Mission wishes to point out that, without reasonable assurance of markets and a willingness to sell livestock, a much enlarged programme of livestock disease control in Somaliland would be extremely dangerous.

At the present time periodic outbreaks of diseases are one of the major factors in reducing herds. Without disease, markets and a willingness to sell, the number of livestock would increase, placing an even greater strain on the forage supplies around permanent water. As a result, the level of nutrition of all animals would be lowered and the impacts of recurrent droughts would be even heavier. It seems that a much accentuated programme of disease control might only save livestock to starve to death during the drought. No economic gain to the people or to the country would result. The end result would be greater damage to the natural forage resources of the Territory.

When markets and the willingness to sell cattle, camels, sheep and goats are assured, the Mission recommends that the following additional steps be taken:

a. An all-out programme to stamp out rinderpest should be undertaken with the help of a Technical Assistance Mission from F.A.O.

b. Work on control methods for trypanosomiasis and pleuro-pneumonia should be continued, but it is imperative that the veterinarians at the Merca station work in close collaboration with the Kenya Veterinarian Department at Nairobi and the Tsetse Fly and Trypanosomiasis Permanent Inter-African Bureau with headquarters at Leopoldville, Belgian Congo.

c. Areas of tsetse habitat along the two rivers should be mapped, using techniques developed in East Africa, and reclamation measures, where feasible and practical, should be undertaken.

E. MARKETING OF LIVESTOCK AND LIVESTOCK PRODUCTS

Livestock and livestock products are major items in the internal trade of Somaliland as well as in the export trade. In 1948, livestock and livestock products made up nearly one-half of the total value of exports from Somaliland, and nearly four-tenths in 1950. (See Table which follows).
Table: Exports of livestock and livestock products (Value expressed in East African shillings during 1948 and 1949 and as somalos\(^b/\) in 1950)

<table>
<thead>
<tr>
<th></th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Value of Exports</strong></td>
<td>15,610,014</td>
<td>17,655,054</td>
<td>32,250,811</td>
</tr>
<tr>
<td><strong>Total Value Animal Prod.</strong></td>
<td>7,409,337</td>
<td>9,615,422</td>
<td>12,261,565</td>
</tr>
</tbody>
</table>

**Animals alive:**

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Value(^a/)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cattle</strong></td>
<td>104</td>
<td>4,973</td>
</tr>
<tr>
<td><strong>Sheep and Goats</strong></td>
<td>5,036</td>
<td>90,297</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>95</td>
<td>3,945</td>
</tr>
</tbody>
</table>

**Hides and skins:**

<table>
<thead>
<tr>
<th></th>
<th>Kg.</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cattle</strong></td>
<td>530,560</td>
<td>1,070,750</td>
</tr>
<tr>
<td><strong>Camel</strong></td>
<td>552,684</td>
<td>336,723</td>
</tr>
<tr>
<td><strong>Sheep and goats</strong></td>
<td>712,963</td>
<td>2,557,150</td>
</tr>
<tr>
<td><strong>Ghee (burro ind.)</strong></td>
<td>794,865</td>
<td>2,318,608</td>
</tr>
<tr>
<td><strong>Camel fat</strong></td>
<td>494,992</td>
<td>926,891</td>
</tr>
</tbody>
</table>

\(^a/\) $1 = So.7.0714
\(^b/\) Source: Chamber of Commerce, Industry and Agriculture for Somaliland (Unofficial statistics).

Data on the internal trade in these products are not available, but it is known that such trade and use is of major magnitude.

Meat from cattle, sheep, goats and camels finds its only market within the Territory. There is no export of meat, partly as result of the lack of any processing plant and partly, so the Trusteeship Administration told the Mission, because of the indigenous peoples' resistance to selling their animals. If the data available on livestock populations are approximately correct (it is probable that they are conservative), the annual herd and flock increase provides much more meat than is consumed within the Territory. This meat is available for export. The prospects
for building up meat supplies are good. If effective disease control could elimi-
the heavy losses from disease, better management of natural pastures plus water de-
velopment and increased feed production could reduce starvation losses, and breed
improvement could increase the production efficiency of the livestock, the meat pro-
duction of Somaliland could be a major item for export.

The presence of rinderpest and foot-and-mouth disease in Somaliland limit the
export of meat to most countries to meat processed as canned meat. The carcase
quality is not considered high, but it might be much better if an effort were made
to purchase animals during or shortly after the green feed season when the livestock
were generally in good flesh.

Attempts have been made to set up meat packing or meat canning plants. The
Mission was informed that an effort was made to set up a meat canning plant in the
Lower Juba in about 1938. The effort failed, we were told, because of inability to
purchase enough animals to keep the plant supplied. At the time the Mission was in
Somaliland, negotiations were being carried out with a concern from Eritrea, but the
prospects for setting up a canning plant did not appear to be bright. In this case the
prospective processor felt it essential to have pork to mix with the beef, and the
prospects of the early production of pork were not too promising. It is not known
whether any attention was given to the possibilities of processing sheep and
goose meat for export to countries in southern Asia.

Milk from cattle, goats and camels is widely sold in the local markets to the
indigenous peoples, and in the larger towns to Europeans. There is not, at present,
york of milk or milk products other than ghee (melted butter).

Ghee is widely used within the country and is also a major item of export.
(Table, page 141 ). Production methods are strictly primitive. The Mission was
told that as a result of the primitive methods employed, the quality of ghee was
generally poor. So far as we could learn, no attempts at more orderly preparation
or marketing of ghee have been undertaken in the past or are being contemplated at
present by the Administering Authority.

Hides and skins. In addition to being widely used locally, these are a major
item of export. Goat and sheep skins made up nearly one-fifth of the total value of
exports from Somaliland in 1950 (Table, page 141 ). Those that are exported flow
from the bush or the local slaughtering place to the local merchant and then either
directly or through several middle-men to one of the twelve or thirteen major ex-
porters. Skins from Galcaio north generally go out through Berbera and Aden, and
those from the southern portion of the country through exporters at one of the towns
along the Indian Ocean.

Goat skins are in demand throughout the world; the salted go to Italy, U.S.A.,
France and the United Kingdom, and the dried to Italy, France, U.S.A. and Switzer-
land. Sheep skins go to Italy, United Kingdom and France. Cow hides go to Italy
and the United Kingdom, and the camel hides go to Italy.

Within the Territory some of the hides and skins are made into shoes and other
types of leather goods by the indigenous peoples in the settlements. Many are used
by the shoe factory at Brava or are tanned at plants in Mogadishu and Kismayu.

The quality of hides and skins is generally considered to be poor. The Missi...
tried to get some data on the proportion of different grades exported but was unable
to do so. Place of production influences the quality of the hides and skins; those
from the bush are generally poor, those from local slaughtering places or abattoirs
are better prepared.

The Administering Authority rightfully feels that much can be done to improve
the quality of hides and skins by better practices in flaying, preparation, and
storing. A school at Mogadishu was started early in 1951 for training indigenous
persons belonging to nomadic pastoral groups as well as those who already carry on
their trade in towns or district slaughter houses. This school has not continued
long enough to get a very good idea of its effectiveness.

Camel grease or fat. This is a minor item in the export trade; the extent to
which it is used locally is not known. It and the low-value camel hides represent
the extent to which the large camel population of the country contributes to the
export trade of the Territory.

Live animals are a minor item of export trade at the present time. Sheep and
goats are the chief classes of live animals that are exported. Many of these go to
Aden. The few cattle exported go largely to Kenya. The Mission was told that
there is a much greater demand for live cattle in Kenya for breeding purposes if
the Somali would sell.

1. Improvements of marketing facilities

The Mission believes that adequate marketing facilities is one of the most
essential fields for the improvement of the livestock industry or the management
of natural pasture lands. Adequate markets will permit the livestock industry
to contribute fully to the economic development of the Territory. They will
form a strong avenue of attack to encourage the Somali to get rid of uneconomic
livestock, much more effective than compulsory culling. As such they will aid
breed improvement in addition to providing a means whereby the level of stock­
ing of the pasture lands can be maintained or reduced to a proper level.

Establishment of a processing plant or plants for meat and animal by­
products is the most needed improvement in marketing. Initially, this canning
plant should be aimed primarily at a market for cattle but ultimately it
should also consider the possible preparation of mutton.

It is quite possible that a plant preparing such by-products as bone meal,
blood meal, meat meal and glue from camels may also be found practical. Initial
efforts to set up such a plant are now being made in British Somaliland by
Colonial Development Works. This effort should be watched carefully because,
if successful, a similar plant can be established in Italian Somaliland to
provide a market for excess camels.

Since establishment of meat canning and by-products plants, or the market
for live animals is so essential, this Mission recommends that the Administering
Authority invite the Food and Agriculture Organization of the United Nations to
send an expert in the field of marketing meat to the Territory to investigate thoroughly the possibility for setting up meat canning and by-products plants, and to assist the Administering Authority in finding export markets for meat and live animals.

The Mission believes that there are several possibilities along this line which the expert should investigate. The most obvious, of course, is the processing of beef or its marketing in fresh or frozen form, or as live animals. But the possibilities of goats and sheep for their meat should not be overlooked. Neither should the possibilities of by-products from these classes of livestock plus camels be ignored.

If the expert finds markets are available but that marketing of the meat cannot be done, or can become much more extensive if accompanied or preceded by livestock disease control campaigns, he should be in a position to advise the Administering Authority regarding the need to initiate such campaigns.

Before such an expert visits Somaliland the Administering Authority should make an earnest attempt to get a better inventory of the livestock population, especially of cattle, sheep and goats, segregated by different localities. The Administration should also try to obtain data on the annual number of cattle slaughtered at the slaughtering places in the towns and villages; and on the average number of breeding cows and heifers per 1,000 total cattle, the average number of calves weaned annually, and the average mortality in the herd itself. Similar information for goats and sheep would be useful. Such information is absolutely essential to permit the expert to judge the annual surplus of livestock that might be available and to advise intelligently on the selection of locations for possible plants.

If the expert finds meat packing or by-products plants economically feasible, and if private capital is not interested, it may be necessary to set up a semi-government corporation to build the plant and start the production of canned meat or by-products. After this will have been in operation for a period of years, it may then be desirable to convert the corporation into a cooperative or sell it to private interests.

Development of the hides and skins industry also needs early attention. Even though hides and skins are a major item in the export trade of Somaliland at the present time, it is very likely that 50 per cent of their potential values is lost annually as a result of improper branding, flaying, and preparation. Moreover, even though the exporter and the buyer in the bush are able to buy hides and skins on the basis of grade, the Mission suspects that the producer is not getting the full value for his product; and if he uses improved methods, there is a possibility that he will not receive a sufficiently large premium for the better quality hides and skins to repay him generously for the extra trouble taken.

At the present time the Administering Authority is holding schools to train the Somali in the better preparation of hides and skins. This does not, however, go far enough. Steps should be taken to assure that the buyer and exporter give full value to the producer and that the methods used in storing, grading and marketing be such that the hides and skins from Somaliland become a recognized item of reasonable quality on the world market.
The Mission recommends, therefore, that the Administering Authority endeavor to get the exporters of hides and skins in Somaliland to re-organize the marketing arrangements and to form a Somaliland Hides, Tanning and Allied Industries Bureau made up of exporters, local tanning establishments and the footwear industry. An Ordinance by the Territorial Council may be desirable to provide for regulation of the trade in hides and skins. Legislation should provide for buyers' licenses, exporters' licenses, registration of premises and other essential matters. Such an organization and the attendant legislation might be patterned after that in Kenya, Uganda and Tanganyika.1/

The execution of these rules and the conduct of training schools for the improving quality of hides and skins will require appropriate financial provisions to ensure the stability of the programme. An abundance of information regarding the preparation of hides and skins is available in publications available in Kenya.2/

The efforts of the Colonial Development Corporation in British Somaliland to improve the preparation and handling of camel hides, to improve their tanning and to develop wider use should be observed. If successful, this effort may markedly increase the export value of camel hides. In turn, it will induce the export of many hides that are now not marketed because many are not worth enough to pay the costs of transportation from inland markets to the exporters.

**Improvements should be made in the preparation and marketing of ghee.**

Standards in the preparation of ghee are very crude and without an orderly marketing process. The ghee produced in the bush may pass through the hands of several buyers before it reaches the exporter. Consequently, the price paid to the producer may be only a fraction of the value.

To improve the quality and uniformity of ghee exported from Somaliland, the Mission recommends that the Administering Authority investigate the possibility of setting up bush stations equipped with a minimum of equipment where the Somali could prepare the ghee following improved procedures.

These bush stations could be operated only during and immediately following the rainy seasons when the production of milk by cattle and goats is high. Information on improved procedures for preparing ghee that have been developed in Tanganyika and Kenya should be given to the Somali.

Certain minimum standards of quality should be set up and the exporter should endeavour to buy direct from the producer through authorized agents, eliminating the line of middlemen. More prompt movement of the product from


the producer to the exporter would probably result in higher quality.

The Mission does not believe, however, that it is desirable to make too much of an effort to increase the production of ghee. Such action might easily result in the young calves and goats being weaned too early, and may even result in a shortage of milk for human consumption. Moreover, centralized production of ghee may result in failure to utilize the residue (skim milk) for either human or animal nutrition. It seems unlikely that the Somali will take the skim milk back to his dwelling. Thus, there are dangers in a programme to improve and increase ghee production that should be kept in mind.

F. EDUCATION, TRAINING AND EXTENSION

Education and extension in livestock production and pasture management needs to be greatly increased. Very little is being done now. Since increased livestock population, value of livestock products and marketing will contribute in a major way to the future economic stability of Somaliland, it is essential that the administrators and the Somali become informed on desirable practices in livestock production and pasture management as soon as possible.

Somali educators and extension men are much more likely to be able to pass on needed information to the Somali producer than are Europeans. It is advisable, therefore, to work toward getting the Somali trained to do the extension work.

This does not, however, relieve the European administrative staff from improving their own knowledge of improved livestock and natural pasture management. An abundance of information is available in the neighboring territories where research and education are being conducted, and where administrative improvements are being made under conditions roughly similar to those in Somaliland. Personal contact by the European staff with experts in the adjacent territories is necessary; to rely on publications and correspondence from these territories is not enough.

We cannot minimize the importance of extension and education in carrying forward the programme of improvement in livestock breeds, methods for handling livestock, initiation of grazing plans, keeping stocking of natural pastures in balance with grazing capacity, disease control and marketing. These improvements must be brought about by convincing the Somali producer himself; improvements to be brought about by decree instead of willful participation are doomed to failure.

1. Training

Training should have as its primary objective the preparation of Somali assistants in the veterinary, grazing administration, flaying and the preparation of hides and skins, and extension fields. Ultimately, these men should be able to handle most of the work that is now being or will be handled by Europeans. It is believed that by an orderly programme of apprentice and career training that this objective can be achieved.

Ordinarily, Somali boys or young men with at least an elementary school education should be selected, but in the flaying and preparation of hides and skins this may not be essential. These young men can by working with veterinarians, grazing survey groups, or extension men learn many of the essential
skills. Coupled with occasional group training, it seems likely that reasonably well-qualified Somali can be prepared to take over much of the work in these fields. Care must be taken by the Europeans, however, to make training of the Somali part of their own work, and not use the Somali only on menial tasks.

2. Extension in Livestock and natural pasture production and management

Very little is being done in this essential field at the present time. Two approaches should be followed. First, the present residents and commissioners and their assistants can do much in passing along to the Somali people information in improved livestock and natural pasture production and management methods. Since they are in no position themselves to keep abreast of the latest developments in these fields, either within Somaliland or elsewhere, it should be the responsibility of personnel in the Agricultural Department and Veterinary Department to summarize this information and prepare brief leaflets to be sent to each of the field administrative staff.

The second, and urgently needed approach, is the assignment of a joint agriculture-livestock extension specialist to at least each commissariat. In some of the more diversified and developed commissariats such as Benadir there should be one extension man for each Resident. These men, well-trained in extension methods and in the fields of agriculture, livestock production and natural pasture management would be responsible for encouraging the Somali as well as European concessionaires to use improved methods.

G. LIVESTOCK AND PASTURE RESEARCH

A vast amount of research in livestock improvement and livestock production methods, and on the natural pastures and their management is needed in Somaliland. It differs from most of the places where research has been conducted in Africa and it differs markedly from other parts of the world.

Most of the problems in which research is badly needed have been proposed in the preceding parts of this section of the report.

To carry out many of the phases of proposed research, it is suggested that one or two livestock and pasture research centers be established. If appropriate locations can be found, it is possible that both livestock and natural pasture research could be conducted at a single centre. Even though this is desirable, it should not be the primary objective, because it may necessitate an area so inaccessible that incidental costs such as transportation and supervision (as in the case with the Hortacolo location) become major items and prevent the efficient pursuit of research.

It is questionable whether for many years to come there is room for much fundamental research work. The emphasis should be on applied research, perhaps testing applicability of general principles that have been found to apply widely. Those problems that are major obstacles in the way of increased livestock production, or the ability to make sound plans for better livestock and natural pasture management, should be attacked first.
In setting up an efficient research programme, even though modest in magnitude, it is essential that research workers keep in close contact with what is being done and what is being learned in other countries, especially those in Africa. This means that the research workers have occasional opportunities for travel and first-hand contact with experts in other parts of Africa, as well as the services of a good library.

To make the work of the research men as efficient as possible, it is also essential that they have available the advice and guidance of an individual who is well-trained in experimental design and statistical analysis. Such an individual can function as adviser for all agricultural livestock and natural pasture research.

If the research worker is to make good progress in getting solutions to those major problems which confront administration, care should be taken by the Administration to avoid giving him responsibility for a large amount of extension work. A limited amount of time so spent will be valuable to the research worker, but it has become apparent in other places in Africa that the research worker spends little time on research. Most of his time is spent on extension work with the result that he is not getting new information that the extension worker can pass on to the livestock producers and administrators.

H. SUGGESTED PROGRAMME OF IMPROVEMENTS FOR THE LIVESTOCK INDUSTRY

The present livestock industry, even with its primitive character, is a major factor in the economic welfare of Somaliland. With improved utilization and marketing of its products it can contribute even more. Realization of its full potentialities will, however, require improvements in livestock breed, improved livestock nutrition and handling, careful management of natural pastures, increased facilities for watering livestock, and accelerated livestock disease control. With these and other improvements the Mission believes that the livestock industry could contribute still more fully to internal welfare and export trade and could essentially provide the backbone for the economic stability of the Territory. The degree to which it attains this stature depends quite largely upon the positive action the Administering Authority devotes to its development.

In setting up a programme for suggested improvements in the livestock industry, and in the use and management of natural pastures, the Mission is impressed by the utter futility of proceeding very far unless adequate export markets for meat and animal by-products can be established and the indigenous people sell most of the annual increase from their herds and flocks. Unless these changes are realized the benefits resulting from many of the improvements the Mission has suggested will contribute but little more to the economic welfare of the Territory.

A strong educational effort is needed to induce the Somali to sell his livestock. Better and more attractive types of consumer goods may also be of considerable assistance. The imposition of livestock tax, which has been an effective tool in some other parts of Africa, may even be required.

Because a failure to establish export markets for meat and to induce the Somali to sell his livestock would place such a limitation on the extent and character of improvement work that it would be practical to undertake, the Mission suggests that the initial steps to be taken be as follows:
1) The Bureau of Agriculture and Livestock production should be reorganized, the personnel increased, and a major emphasis placed on extension work with the indigenous peoples. The Veterinary Service, especially that of the field veterinarians, should be transferred to this Bureau so that its work in livestock disease prevention and control could be coordinated with livestock production. Upon the planned, conscientious efforts emanating from this Bureau will depend, to a large measure, the success in developing the livestock industry to its fullest capacity.

2) The possibilities for markets for meat and animal by-products should be appraised by an expert from the Food and Agriculture Organization of the United Nations. If the expert's report is favourable, the Administering Authority, working closely with the expert, should make the necessary steps to establish such markets.

3) The programme for improving the quality of hides and skins should be continued and expanded. An effort should be made to enlist the full support of the exporters and to secure necessary legislation governing hides and skins trade. Appropriate financial provision should be made to pay for the conduct of training schools, inspection and other essential services.

4) Permanent water supplies should be developed at certain selected places where they are needed to promote stability of the existing communities or where more potable supplies of water are needed to promote public health.

5) A survey of soils, vegetation, and tribal migrations and rights should be begun. The Mission recommends that a well-qualified and experienced expert and at least one European assistant be secured with the help of the Food and Agriculture Organization of the United Nations to initiate such a survey. The information to be secured by this survey is essential to the land classification, development of grazing plans, and the establishment of additional stock watering points.

6) The programme in livestock disease control should be continued at a slightly expanded rate. Facilities at the Sera and Vaccine Institute should be provided with more modern equipment to permit the more efficient production of vaccines.

7) Strong efforts should be made to re-establish and maintain contacts with experts in the fields of veterinary, livestock improvement and management, management of natural pastures, marketing of livestock products and extension work located in other parts of Africa. Such contacts are essential if reasonable progress is to be made in the technical improvement of livestock and pasture management.

After there is reasonable certainty of the establishment of markets for meat and animal by-products, and assurance that the Somali will sell his annual herd increase and uneconomic animals, the Mission suggests that the major steps to be taken are as follows:

8) Provide for an improved plane of livestock nutrition through better management of the natural pastures, development of other forage and feed resources and the provision of needed watering points.
9) Initiate a programme to secure improvement in methods of handling livestock based on a careful study of present production methods used by the indigenous people.

10) Complete the pasture survey, prepare and initiate grazing plans, and take necessary steps to adjust number of animals grazed to the grazing capacity of the natural pastures.

11) Develop the needed additional watering points for livestock at sites determined by location and condition of forage supplies, tribal rights and uses, and information regarding possibilities for securing water.

12) Work toward general herd improvement of cattle through earlier castration of bull calves, sale of uneconomic animals and other steps.

13) Initiate a programme of rinderpest eradication with the help of a Technical Assistance team from the Food and Agriculture Organization of the United Nations. It may be essential to initiate this campaign in conjunction with the establishment of satisfactory markets.

14) Increase efforts in control and prevention of other livestock diseases.

15) Make careful study of indigenous breeds of cattle and seek to develop suitable dual-purpose breeds.

16) Conduct research aimed at determining such practical aspects of natural pasture management as grazing capacity, use value of plants, and use and value of seasonal closures.

17) Investigate the possibilities for setting up bush stations for preparation of ghee, improving quality, and improving marketing procedures.

The prospects are not bright for rapid development of the livestock industry when dealing with nomadic and semi-nomadic peoples and primitive land. Slow, persistent and planned action will be necessary. But the Mission has confidence that the Administering Authority can make appreciable strides in this direction, and can lay the groundwork for continued development of the livestock industry.
CHAPTER IV AGRICULTURE (OTHER THAN LIVESTOCK AND NATURAL PASTURE)

INTRODUCTION

1. The frontiers

Italian Somaliland, even more than most other territories in Africa, is separated from neighboring territories by entirely artificial boundaries which have neither geographic, climatic nor ethnic significance. Their origin can be traced to the end of the last century when the spheres of influence of various European powers were indicated by imaginary lines drawn across Africa. This is particularly noticeable in the case of Italian Somaliland because of the length of the country from northeast to southwest is some 1,800 kilometres, whereas the width from southeast to northwest varies from only 160 kilometres to some 400 kilometres.

Italian colonization of southern Somaliland (Benadir) became effective during the early part of this century; but whereas a treaty of Italian protection was signed with the Sultan of the Midjurtein in 1889, this part of the country was not occupied until 1925.

The Trans-Juba, or that portion of Juba-land west of the Juba River up to 41° longitude, previously forming part of Kenya Colony, was ceded by Great Britain to Italy in 1926, and became part of Italian Somaliland. The northern part of the boundary between Italian Somaliland and Ethiopia is a straight line running from Fer Fer to the frontier bordering the British Somaliland Protectorate near Garoe. The frontier bordering British Somaliland follows the 49° longitude, turns southwestwards on reaching the 9th parallel and then proceeds in a straight line which is continued as the provisional administrative boundary with Ethiopia.

2. The Midjurtein

Geographically and climatically, this northern part of Italian Somaliland -- the Midjurtein -- together with the eastern half of the British Somaliland Protectorate forms a region distinct from the rest of the country and consists of a series of mountain chains rising to their maximum height within a short distance of the northern coast line. The narrow coastal belt is almost a desert with a rainfall of from 5 to 10 mm. a year and has a different climatic regime from the rest of the country since it faces the Gulf of Aden. Southwards, this mountainous country which carries a very sparse woody vegetation gradually gives way to an extremely arid peneplain. Two very large depressions which produce good grass after rain -- the Darror Valley in the north and the Nogal further to the south -- run in a southeast by easterly direction from the British Somaliland Protectorate into Italian Somaliland. All this country is extremely dry and subject to periodic famines of long duration.

The Somali people all settled in a number of small ports along this coast live by catching shark, tuna, sardines and other fish which is dried for export. A fish canning and processing industry developed before the war has been recommended, and a request for assistance in developing more extensive deep-
water fishing for tunny is being entertained. Incense and some myrrh is collected by goat and camel-keeping nomads in the mountains. Tin ore exists, and mining operations were commenced before the war; but it is not known whether these deposits can be worked economically. Agricultural production in this region is limited to a few very small irrigated settlements, a few date palm plantations in the coastal sands where there is underground water and small catch crops sown but not cultivated in depressions on the deltas of tugs. Traditionally, grain (largely rice) with some blackeye peas, together with cotton piecegoods, tea and sugar were traded for incense, dried fish, skins, hides and a few live animals with the Arab owners of dhows who come down from Aden and the coast of Arabia during the northeast monsoon from December to March during the "Jilal" season. The Midjurtein, together with the adjacent British Somaliland Protectorate, is linked commercially and economically more closely with Aden than with the rest of Italian Somaliland. Salt was produced by solar evaporation at Hafun before the war, but it is not known whether it would be possible to reopen this industry and operate on an economic basis.

In relation to the productivity of this stony semi-desert soil, this part of Italian Somaliland is overpopulated, and there is a constant pressure to move south and west.

3. The Mudugh

To the south where Italian Somaliland adjoins the Ogaden Province of Ethiopia, the country (the Mudugh) is, generally speaking, flat with shallow stony soil, clothed with low sparse bush and occasional trees, but with areas of excellent pasture. The rainfall is low, averaging about 200 mm. (See Appendix 1), and much of this pasture can only be utilized during and shortly after rain because of the great distance from permanent wells. The provisional administrative line, as the frontier is called, cuts across the accepted territory of at least one important Somali tribe, causing a great deal of sorrow and strife.

Only occasionally is a sporadic planting of a few crops possible in depressions and tugs as in the Midjurtein. This region carries a large population of camels and goats, and there is a considerable export of skins -- many of which go out via Berbera -- and of ghee made from goats' milk. Grain, largely durra, is imported by road or by dhow via the small port of Obbia from the south, and the nomadic people whose preferred food is camels' milk supplement their diet with cereals and sugar purchased by the sale of livestock products.

4. The region between the rivers

Proceeding southwards, the rain which falls in two seasons of the year, the "Gu" from mid-March to lst June and the "Der" from lst October to mid-December, gradually increases; and between the Webbe Shibeli and Juba Rivers -- especially in the area around Iscia Baidoa and Bur Acaba -- at an altitude between 200 and over 500 metres above sea level, it rises to a yearly average of over 600 mms. Here there are considerable areas of good fertile soils where two

1/ Now largely replaced with durra sent up from Mogadishu by water.
2/ The periods of the Grand Der rains vary from place to place and from season to season but the dates given are the most widely accepted approximations.
crops of durra are grown a year. The rainfall in each of the two seasons is normally from 200 to over 350 mms.; but even at Iscia Baidoa the rainfall is extremely variable, and records kept since 1923 indicate that the annual total may be as high as 1,200 mms. and as low as 380 mms. (See Appendix I). In certain areas one or the other of the rainy seasons is often a complete failure; and although it is rare for two rainy seasons to fail in succession, local crop failures have taught the people the necessity for extensive grain storage in pit silos. Normally there is an excess of grain which is marketed at Iscia Baidoa and other centres for transport out of the area for consumption in Mogadishu and in the Mudugh and Midjurtein.

Many hundreds of villages in this region depend for domestic water supplies on Uar or reservoirs excavated in natural depressions, the earth being thrown up on three sides to increase their capacity. In some years most of these dry up during the "Jilal", and the whole population has to trek with its animals to permanent water, usually the Jub or Webbe Shibeli. To this extent only are most of these Rahainuin people nomads. They are of mixed origin and are said to be the descendants of an earlier wave of Somali invasion which conquered, enslaved and inter-married with the original Bantu inhabitants. They have resisted penetration into this region between the rivers by later Somali migrations, i.e. the Derod; and these in turn will not inter-marry with the Rahainuin because of their mixed origin. The impression gained of this region is that the agricultural areas are heavily populated, whereas areas where the country is broken or the soil is shallow are largely unoccupied. The Doi or southeastern part of this region is said to be similar in that soils, rainfall and vegetation are good, but it is underpopulated owing to a lack of permanent or semi-permanent water. Only the territory-wide land survey recommended by the Mission can indicate to what extent development is possible here. Iron ore is said to occur in the region between the rivers; but short of the discovery of coal, there is little reason to suppose this could be exploited economically.

5. The coastal belt

The coastal belt is approximately 30 kilometres wide and is largely occupied by fossil dunes, including both red and light-coloured sands. The natural vegetation here is bush, consisting largely of Acacia species. The best crops are grown on the red sands, in the depressions and on alluvial soils where these occur. In contrast to the rest of the country the rainy season extends from April until November; there is only one dry season, the "Jilal" from mid-December to mid-March, instead of two, while the "Hagai", June to September inclusive, instead of being dry, is the wettest period. (See Appendix I). Maize is grown to a considerable extent and largely replaces sorghum (durra) as the food crop in the southern portion of this belt. Until the introduction of Egyptian cotton, native perennial cotton was grown fairly extensively here, and this is one of the regions where there is a reasonable possibility of getting cotton-growing established. It extends from the Kenya border to some distance north of Mogadishu with an outlier at Harerdera near Obbia. The rainfall of this belt is about 500 mm. per annum; and, although subject to great variations from one season to another, it is probably more reliable than anywhere else in the country. Humidities are high throughout the year, rarely falling below 70 per cent even during the "Jilal" and ranging

Verbal information from Dr. Bernadelli.

153
between 76 per cent and over 90 per cent during the rainy season. Plentiful grazing and water supplies result in big migrations of people and livestock into this area during drought periods in the interior. Among the tribes who live in this belt, camels and goats are largely replaced by cattle and sheep.

The coastal belt to the south of the Juba is occupied by a tribe of mixed Bantu and Arab origin known as the Bajumi. They are fishermen farmers, and they also occupy the coastline and islands for some considerable distance into Kenya. A small fishing industry is being developed here by Italians in cooperation with the Bajumi. There are small enclaves of people of non-Somali origin at other points along the coast. All the major urban centres of population are situated in this belt -- Mogadishu, Merca, Brava and Kismayu. These centres, by creating demands for firewood, milk, and meat, have further increased the pressure of human and livestock population in an area already hard pressed because of its more favourable rainfall and grazing during the "Hagai". This has resulted in considerable erosion by water where slopes are steep and has aggravated the tendency of fossil dunes to become active and mobile.

6. The river valleys

Both the Webbe Shibeli and the Juba rise in the Ethiopian highlands south of the Rift Valley and both areas have a rainfall of about 1,500 mm. per annum. (See Appendix 1). The Juba runs in a southerly direction through the country and enters the sea near Kismayu, 200 kilometres from the Kenya border. The Webbe Shibeli follows a similar course through Italian Somaliland some 400 kilometres to the northeast of the Juba; but on coming within 30 kilometres of the sea near Mogadishu, it gradually turns and flows in a southwesterly direction parallel with the coastline for another 400 kilometres, it flows gradually decreasing by percolation and evaporation until it loses itself in the Balli Marshes, not many kilometres from Gelib on the Juba River. There is evidence that at one time it ran into the sea somewhere near Mogadishu, and that possibly at a later date it ran into the Juba River. During the course of time, both rivers have deposited alluvium in broad valleys. Both rivers have two floods a year during the "Gu" and "Der" seasons respectively. The highest floods on the Webbe Shibeli are in the "Gu" season during March, April and May, while there are normally smaller floods some time between August and the end of November, and the river is frequently dry during the months of December, January and February ("Jilal"). The waters of the Webbe Shibeli are saline, the salt content varying enormously according to the season of the year and the type of flood. This is due to the fact that portions of the basin through which it and its tributaries run before reaching Italian Somaliland are hot and dry and salt impregnated. The Juba, on the other hand, is normally a perennial stream, and the water is not saline to any extent. The highest floods on the Juba occur during the "Der" season in October and November, whereas minor floods occur during the "Gu" season from May to July. Last year, for the first time in 12 years, the Juba River actually ran dry, but it was still possible to obtain water by digging holes in the river bed. The vegetation in the river valleys ranges from open tall grassland through Acacia thickets to evergreen gallery forest.

Since these floods occur as a result of the Grand Der rains in the Ethiopian highlands, their arrival in Italian Somaliland does not always coincide exactly with the rains in that country.

154
The tribes of Bantu origin living in these river valleys, some of whom have Swahili or another non-Somali language as the mother tongue, are settled cultivators. Owing to tsetse fly in many areas they cannot keep cattle, and in some areas they even find it difficult to keep goats.

In the upper river valleys the staple food crop is durra, although maize is grown in low-lying areas. Particularly in the Lower Juba durra is largely replaced by maize; and, together with fruit trees, a variety of other crops are grown, such as pawpaws, coconuts, bananas and mangoes. Sesame and recently cotton are widely grown in depressions as the floods recede.

It is possible to irrigate by gravity from the Webbe Shibeli because much of the valley is actually below the level of the river which is contained by relatively high banks. This is not so, however, in the case of the Juba. By means of a very large dam across the Juba at Arriento, 20 miles from Bardera, it would be possible to irrigate a large area; and the Valley of the Juba was mapped in great detail by Carniglia in 1924 to 1927. (See Bibliography No.6 and 7). This is undoubtedly a very attractive project because of the large area of fertile, irrigable land below the proposed site for this dam, but the population does not exist either to justify or make possible this undertaking. Water for irrigation on the 43 European concessions along the Juba has to be pumped out of the river. Irrigation by controlled flooding is practised on some of the 30 small concessions granted to Arab, Sudanese and Swahili settlers on the Lower Juba prior to 1926.

The first irrigated settlements on the banks of the Webbe Shibeli and Juba Rivers were started by private individuals and companies in 1909 and 1910. From 1910 to 1916 and again from 1924 onwards, some 144 irrigated settlements were developed on the Webbe Shibeli at Genale and at Afgoi. The irrigated concession of the SAIS (Societa Agricola Italo-Somalo) was developed on the middle Webbe Shibeli in 1921 at Villaggio Duca degli Abruzzi with cotton as the main crop. In 1926 the sugar mill was erected and since then sugar cane has been the main crop. Shortage of labour for cutting the cane, however, is now causing grave concern. Groundnuts are also produced, but unless a means of mechanical harvesting can be developed, shortage of labour is likely to reduce even further the acreage grown. Grapefruit and other citrus are grown, and a small amount is exported, while mangoes, pawpaws and other tropical fruits are produced in small quantities for the local market. A wide range of tropical crops can be grown; but few of them can be grown economically so the land available is not fully utilized, and production is limited by the shortage of labour. The only hope of any considerable increase in agricultural production is the development of a crop that can be mechanized economically.

In the valleys of both rivers there are natural depressions or desceks which become filled with water during the floods and which are planted with crops by the riverine peoples as the waters recede. Especially in the Juba Valley, the flooding of these desceks was and still is controlled somewhat precariously by these people working together under the direction of their chiefs. Crop production could be considerably increased by proper flood control; the people are being persuaded to form co-operatives and assist in the digging of canals and installation of flood gates provided for them by the AFIS. The inhabitants of these two river valleys exchange agricultural produce for meat and livestock products with the nomadic peoples who come to the
rivers for water during the dry seasons. Because of tsetse infestation extensively; areas of fertile soil in these river valleys are only grazed to a limited extent, and the population is insufficient to make extensive clearing feasible. Many areas are cut off for periods at a time during floods, and the control of malaria and water-borne diseases would be difficult if not impossible.

7. The Trans-Juba

The northern part is semi-arid, similar to the rest of the interior of the country where at low altitudes a nomadic existence dependent on camels and goats is the only way of life possible. Livestock and livestock products from this region are marketed at, or pass through, centres such as Lugh and Bardera. The Darod (Somali) tribes living here migrated from the Midjurtein during the last century, overcoming the Galla inhabitants; this southwesterly migration would continue but for the establishment of a Somali line within the northern province of Kenya designed to prevent further strife.

The southern portion of this area appears to have a good rainfall (see Appendix 1), and there are considerable areas of deep fertile soil. The vegetation is more luxuriant; and it would appear to have an agricultural potential, but permanent water is scarce. The tribes are largely cattle-raising nomads, it being impossible to keep camels here owing to tabanid flies, and there is already a strong tendency to settle and grow crops wherever possible. The proposed survey will indicate where this should best be encouraged.

A. GRAIN CROPS

1. Production

Durra is the chief grain crop of Italian Somaliland and is grown extensively in the zone between the rivers, along the Webbe Shibeli and in the Upper Juba valley. It is replaced to a considerable extent in the Lower Juba and in the coastal belt as far north as Afgoi by maize. Elsewhere it is only possible to grow maize in depressions which are flooded.

The varieties of sorghum grown for grain have compact heads, and the majority would appear to be of the durra type. Commonly two main varieties of grain are distinguished: red and white, the latter fetching a higher price in the markets and the former which is said to be inclined to be bitter and to require more careful preparation before cooking and eating. On the other hand, red-seeded, dark-glumed varieties are less attractive to birds and are therefore preferably grown in certain situations. Tozzi lists four distinct grain varieties cultivated in the Lower Juba (see Bibliography No. 37). He also lists twelve types cultivated in the Lower Juba for their sweet stems; and in many of the districts the Mission visited, the people referred to varieties of durra grown for chewing.

All the sorghum seen standing or collected in heaps was tall, in many cases three metres or more in height, and nowhere was evidence found that short varieties were grown. In a dry climate with a short growing season this is surprising, as in many of the drier areas of Africa, i.e., northern Sudan, Matabeland and the Swaziland lowbelt, varieties normally only 1.5 metres high are widely grown. It is RECOMMENDED that short varieties such as these be tested.
According to tradition in British Somaliland, durra was brought in from Arabia on the one hand and from Ethiopia on the other. The same is likely to be true of Italian Somaliland.

Shortly before rain is expected, the stumps of durra are "hoed out", collected and burnt, together with any of the stalks which remain. Perennial weeds or the re-growth of bushes are also chopped down and burnt. The soil is not cultivated in any way before planting. The shamba or small field in which the durra is to be planted is often divided into a number of squares -- called mos -- from four to five metres across, separated by low banks (don) which are raised by means of a wooden scoop known as a cavava which, in turn, is pulled by one man with two cords and directed by another. This is done in order to hold water in place during a heavy fall of rain and to prevent it running off the shamba. In many cases water is also led on to the shamba from surrounding bare ground or, for example, from a road, by means of training banks. At the lower end of the shamba a substantial bank is often constructed for the same purposes and also to prevent water from running off.

Normally after the first rain, about five seeds of durra are planted in holes dug either with a hoe (jembe) or a planting stick. These and other instruments are described in detail by Vitali and Bartolozzi (see Bibliography No. 38). If, on the other hand, the rains are late in coming then a certain number of the shambas are dry planted, using a hoe in much the same way. The spacing varies according to the locality and rainfall but is usually between 1.0 and 1.5 metres. Very often the hole is made by the head of the family while the seed is put in by his wife and children. Often cowpeas (fagioli) and pumpkins are sown in the same shamba as the durra or maize. Large areas of durra are frequently planted on the same day, giving a remarkable air of uniformity to the crop. This planting date is often customarily regulated by the Moslem priest or holy man.

Weeding is usually well done during the early stages of growth as the people have learnt that failure to do so results in a poor crop. A short-handled hoe is used, and the surface of the ground is little more than scraped to the bare minimum depth required to kill weeds.

The grain is usually harvested by cutting off the heads, leaving only a few inches of stalk attached to the head. In some areas it was noticed that all the stalks of durra were cut and stacked in one or more places in the middle of the shamba, frequently against a tree, as fodder for livestock during the dry season. In other areas where there is apparently no great demand for fodder during the dry season, this is not done, and the stalks are simply left standing to be eaten and trampled by animals at will.

In the southern part of the area between the two rivers in the coastal belt and in places where there is sub-soil moisture, durra planted during the "Gu" rains in April and harvested in, say, August is allowed to grow again and produce a second crop as a result of the "Der" rains which fall in October and November.

Maize is grown to a considerable extent in Benadir -- the coastal belt south of Mogadishu -- and in the Lower Juba Valley. Some maize seen in the Lower Juba had been sown like durra (several seeds in the one hole) and as a
result had produced much leaf and little grain.

The original indigenous maize is a small dwarf variety which produces grain of all shades of red, yellow, white and blue. Various introductions have also been made of white and yellow varieties.

Opportunities for improving the yield of maize by mass selection in the field probably exist, and it is RECOMMENDED that this be undertaken by the agricultural department in the Lower Juba. It must be borne in mind that yellow maize is diagnostically much superior to white maize due to its vitamin content, and it would be a mistake to concentrate on the production of white maize. Yellow varieties of maize -- such as Bushman and Sahara from the Union of South Africa -- and yellow maize from the Farmers' Co-operative, Njoro in Kenya should be tried on the experiment station at Alessandra.

The virus disease "streak" of maize appears to be fairly common, and this should be studied by the entomologist recommended in connection with borers.

Crop residues, especially the stalks of durra, are eaten by all types of livestock, and it should be possible to combine more rational utilization of these by-products as recommended by the Pastoral Expert with the conservation of dung and urine as manure for the shambas.

It is very difficult to arrive at a good estimate of grain production, and the only reliable figures are those of grain produced under irrigation in the various concessions. This is normally not a paying proposition; but in view of the almost chronic world shortages of food-grain, the subsidized production of maize by mechanical means on irrigated concessions might be considered rather than relying upon the purchase of maize or other grains from overseas in the event local reserves of grain prove inadequate during a prolonged famine.

2. Possible methods of increasing autochthonous food production

All of the north and much of the interior of Italian Somaliland cannot, for climatic reasons, produce more than a small proportion of the food crops needed to feed their populations, and they are dependent on a surplus of grain from the river valleys, the coastal belt and the durra-growing areas centred on Iscia Baidoa and Bura Acaba. This surplus might be increased by --

1. increasing the acreage under production,
2. increasing the yield per acre or
3. reducing losses in storage, or a combination of all three.

No accurate information is available with regard to the extent of land actually sown to crops or lying fallow or the degree to which this is over or under-exploited. Even less information is available to what land that could be cultivated remains or how it is placed with regard to water supplies. As an essential preliminary before attempting to stabilize populations or otherwise create any extensive heavy demands for arable land, the Agricultural Expert RECOMMENDS, in full agreement with the Pastoral Expert, that a detailed soil, vegetation and land utility survey be carried out and maps prepared, together
with the detailed study of seasonal tribal movements recommended by the Expert on Nomadic Questions.

Among a people where the productivity of man is limited by the area he and his family can hoe by hand, an obvious way to increase production is by the introduction of the plough and other simple implements that can be drawn by a pair of oxen. But experience in Northern Nigeria, over a wide range of conditions for a period of years, indicated that the peasant cultivator could and would use animal-drawn implements only if certain conditions existed. Where the area cultivated by a family was small and where no appreciable additional arable land was available, as in the densely populated area around Kano, the average man could see no economic advantage in owning a plough. Travelling through by road from Ual Uen to Bur Acaba and Iscia Baidoa, and on the road from there towards Lugh, Uegit or Bardera, the impression gained in many areas is that all the good arable land is already under cultivation and that, as land rather than human labour appears to be the limiting factor, there would be no point here in trying to introduce animal-drawn implements. But only the survey recommended above can indicate to what extent this is true or otherwise.

In the British Somaliland Protectorate there has been a great increase in the use of cattle-drawn ploughs during the last few years in the better rainfall areas; and in southern Arabia similar wooden ploughs are drawn by camels. Only one such plough was seen in Italian Somaliland. This was at Belet Uen, and it was drawn by a donkey owned by an Arab. On the other hand, in areas where there was no shortage of land, the cultivators of northern Nigeria were able to pay for implements and learnt to use work oxen, provided there was a market for their produce and the area was free from tsetse. In some areas the local cattle had developed a certain tolerance to the effects of trypanosomes; but when they were put to work this was lost, and they succumbed to the disease. In parts of the Juba and Shibeli Valleys the situation would appear to be similar. There is an acute shortage of agricultural labour at Villaggio Duca degli Abruzzi and, although labour is relatively plentiful in the Lower Juba, according to the Resident at Margherita a great number of the inhabitants were already fully employed and settled on the concessions in 1939. (See Bibliography No. 37). So there cannot be any large surplus today. To the north of Gelib and even to the south on the right bank of the river there appeared to be large areas of unoccupied bush; and according to the writer Tozzi there are depressions or descents of very great extent which are only partly used or not used at all. The Mission was able to see a few of these. The Juba and its valley were studied and mapped in considerable detail by Carniglia in 1924 and 1927. (see Bibliography No. 6 and 7). In these valleys, therefore, detailed soil, land utilization, tsetse and population surveys should reveal the extent to which a mixed crop and livestock economy can be developed and the acreage under cultivation increased. An alternative method of increasing the acreage under production is by partial mechanization, but as the only hope of making this an economic proposition lies in the production of irrigated crops giving higher yields, this is dealt with under that heading.

The lower valleys of both the Webbe Shibeli and the Juba have a very low gradient, and the flood plains of both rivers are extensive. For example, the fall from Villaggio Duca degli Abruzzi to Havai is only 60 metres over a distance of 280 kilometres on the Webbe Shibeli and only 50 metres from Duguma to the sea over 180 kilometres on the Juba. In addition, both rivers have extremely tortuous courses so that the fall is very much less than is suggested.
by these figures. Over a period of time both rivers have frequently changed their courses, and portions of old river beds remain as depressions or desceks: dry or marshy ground normally separated from the main stream. During periods of flood the desceks become filled with water by way of channels or far, some of which are natural and some of which are undoubtedly man-made, however, by the present inhabitants. Certain of these depressions are planted with crops after the flood waters recede, and in cases where a descek has been planted with crops after the early flood, the people working under the direction of their chief will close the mouth of the far with a substantial barrage of stakes and earth to prevent a later flood from entering the descek and damaging their crops. One of these barrages on the Juba was seen by the Mission. It was on the outside bend of a river, i.e. in a rather dangerous position, and would have to be repaired after each flood. By deepening a far or digging a new channel and installing a sluice gate, it is possible to regulate the flooding of a descek and make it more productive. Before the war a considerable number of works of this type were constructed for the benefit of the local peasants concerned by the Italian government which used local labour. These labourers were normally fed but not paid as these projects were for their own benefit. A number of these were seen, and although the concrete works were in good repair, the channels were to a certain extent silted up and badly overgrown with weeds. Evidently no use was made of these works during the war when there was no European supervision. The total area of desceks in the low Juba is estimated at 5,000 hectares. It would be possible to control the flood irrigation of a large proportion of this area, and it is understood that a considerable amount of detailed information about these desceks is available in Mogadishu.

It is now proposed to try to develop these desceks on a cooperative basis. The Margherita descek, which was seen under water, includes about 34 hectares of inundated land largely unutilized because the water lies there for months. The sluice gates have been constructed and the officer in charge, having persuaded the people to form a cooperative, is now waiting for the labour to come and dig the canal. At Galalio, where a canal was dug before the war and sluice gates installed but which now lies overgrown with weeds, the people had recently agreed to form a cooperative. A steam engine to raise water for perennial crops on neighbouring land not normally flooded has been bought and an additional canal planned. The co-operators agreed to work unpaid but fed, but they did so only for three days in February (in the middle of the "hilal" when no crops are in the ground) because, according to the technical officer in charge, political agitators had persuaded the people that the Italians would take over the scheme for themselves when it was completed. Further meetings have been held, but at the time of the Agricultural Expert's visit the people had not yet reached an agreement as to whether they wanted the engine and gates installed or not.

This type of experience with autochthonous peoples is not unique, and it is undoubtedly difficult to persuade peasant farmers in an area where some sort of a crop can be obtained by rainfall or purely natural flooding every year that it is really worth their while to go to the trouble and do the extra work involved in systematic irrigation. Where rainfall is really inadequate for crops production, the same people are prepared to do the extra work involved in irrigating. In Southern Rhodesia the Agricultural Expert records that irrigation works installed as a result of persuasion by an enthusiastic administrative
officer for the production of fruit, vegetables and additional crops in areas where rainfall was normally sufficient for a grain crop soon became derelict on his departure, while in the Sabi valley not far away, in an area of very low rainfall, irrigation schemes flourished and have now become a permanent addition to the productive capacity of the country.

At Balad, on the Webbe Shibeli 30 kilometres from Mogadishu, two co- operatives have been formed, one consisting of people of the Cavole tribe and the other of Ilivi people, with the object of developing and irrigating two depressions which lie a few hundred metres from the river and which are separated from it by a belt of sandy alluvium. In the first instance, the number has been limited to forty families per co-operative and each tribe has been provided with two silos, each of 450 Hl. in capacity, for the storage of maize and durra. The Administration has built a school and a small hospital. A caterpillar and heavy plough are being used to open up the soil and excavate portions of the earth from the two main canals. Each canal when completed will be capable of drawing 500 - 600 litres per second from the Webbe Shibeli through a concrete intake and carrying water by gravity through the high level area to the dark, brown, very fertile, irrigable soil. The main canals are, respectively, 880 metres and 1,100 metres long; and secondary and tertiary canals will be dug to irrigate individual shambas of two hectares for each family. It is proposed to plough and plant maize and durra by mechanical means, the tractors and implements being hired by individuals from the co-operative; the rest of the work will be done by hand. Gravity irrigation is possible for up to three months per year and will ensure that at least one good crop can be grown per year. If rainfall is sufficient, it will be possible to grow two crops per year. No definite rotation has been decided upon, but cotton will be included as a cash crop. In addition, each co-operative is being provided with a pump capable of delivering from 150 - 200 litres per second into a high level canal serving areas which lie above the flood level and which are suitable for perennial crops, i.e., coconuts, fruit of various kinds and vegetables. In the event of a very small flood or failure of the rains, a connecting canal will enable water to be delivered by the pump into the main canal and so ensure at least a minimum of food crops. Small trees are being pulled out by wire ropes and large trees are being dug out by hand. Very little levelling is required. In this area there are the remains of an old canal, indicating that at some time past more highly developed people lived here who had practiced irrigation.

Hitherto, only Italian concessionaries have made any use of water from the Webbe Shibeli for irrigation purposes, and these cooperatives are therefore commended as being interesting experiments in agricultural development and community improvement by the Somali people themselves under European guidance. The capital expenditure on the part of the Administration has been heavy, and the success of this experiment will largely depend upon the extent to which the people can be persuaded to take a proprietary interest in the canals and pumps and realize that it is they who will pay for them eventually.

a. Control of stalk borers

The production of grain in Italian Somaliland would be greatly increased if the ravages of stalk borers could be reduced. In all crop-growing areas of Italian Somaliland visited by the Agricultural Expert a high degree of infestation of durra and, to a lesser extent, maize with
stem borers was noted. Every stalk of sorghum examined contained at least one pupa or larva, and many ten or more. The seriousness of this pest is fully realized by good cultivators who dig out the stumps and burn all residues of durra shortly before planting the new crop in order to destroy the larvae and pupae that remain in them. The seriousness of the damage caused by stem borers in durra does not seem to have been examined in detail or sufficiently appreciated by earlier workers. Chiaromonte, who spent twelve months in Somaliland in 1925 and 1926, referring primarily to Sesamia cretica (Led.), stated that it is "rather uncommon on maize and durra in Somaliland." (See Bibliography No. 30, p. 159). According to him, S. calimistris is also found in Somaliland. Before any method of control can be applied, it is essential that these insects and their life histories be studied in detail in the field, and it is RECOMMENDED that the services of a good field entomologist be obtained for this purpose as soon as possible. Jepson, drawing attention to the importance of stem borers and referring to the Pyralid moths of the genera Diatraea, Proceras, Chilo and Schoenobius and the Noctuid moths of the genera Sesamia and Busseola, states:

"...from many years of experience in tropical entomology, it may be confidently stated that, as a world problem, stem borers are at least commensurate with locusts." (See Bibliography no.19).

This problem is being investigated in Kenya by Le Pelley, in Tanganyika by Swaine and Duerden, in Nigeria by Sutherland, in the Gold Coast by Bowden, in Mauritius by Williams and Moutia and in the Sudan by Darling; and it is essential that whoever undertakes investigations into these pests in Italian Somaliland get into personal contact with these entomologists and those working in other African territories with stalk borers. A review on the world literature on stalk borers is to be published shortly by Jepson. (See Bibliography No. 20).

As fas as immediate measures of cultural control are concerned, there is little one can recommend, in view of the fact that in most areas two crops of durra are grown per year -- the "Gu" crop being harvested in July and August and the "Der" crop being planted in October -- and that the stalks are required for feeding to livestock. It is RECOMMENDED that every encouragement be given to the autochthonous practice of hoeing out all stumps and destroying all stalks by fire before planting. Given suitable encouragement by the Administration, there is no reason why a far more effective and complete destruction of these residues before planting should not be obtained by exercise of the traditional authority of chiefs, elders and religious leaders in each village according to the season. The seriousness of this pest needs to be brought home to every Government official and to every private person able to read, by means of simple illustrations and well chosen propaganda.

In the river valleys where durra and maize are planted in descoks as the water recedes after flooding, the planting season extends over a long period of time, with the result that crops are growing most of the year. More systematic flooding by means of canals and sluice gates would enable
planting to be restricted to certain periods and so reduce the opportuni-
ties for continuous reproduction and multiplication of borers on durra and
maize. This is being attempted, but as we have seen above, it is only
proceeding slowly owing to the mental attitude of the people.

The use of insecticides is costly and could hardly be economic for
rainfed crops under Italian Somaliland conditions where, owing to low and
uncertain rainfall, average yields are low. Under irrigation, their use
might be considered for maize as has been the practice in South Africa for
some years. On the other hand similar methods used by Jepson in Tangan-
yika were ineffective in 1948.

At the FAO conference at Clermont-Ferrand (See Bibliography No. 48),
some varietal differences in resistance to corn-borer in maize were re-
ported from Spain, and the procedure of breeding for resistance to corn
borer in the United States was described under three headings:

i) the attractiveness of the plant to the moth for
oviposition;

ii) resistance of the plant to the establishment of
the first brood; and

iii) tolerance -- the ability to yield a crop in spite
of corn-borer infestation.

It would therefore appear that detailed entomological investigations of
the ecology of borers in Italian Somaliland are required first before a
programme of plant breeding is initiated. Durra is, in any case, to a
large extent cross-pollinated under natural conditions, so that in view
of Karper's work at Chillico the (See Bibliography No. 23) in-breeding in
order to establish pure lines would appear to be a first necessity probably
followed by hybridization. Close cooperation between entomologist and
plant breeder will be essential.

b. Use of fertilizers

Owing to uncertain rainfall, it is most unlikely that the use of
fertilizers would either give much increase in yield, except in certain
seasons, or that it would be an economic proposition.

In eating durra and other crop residues on the lands, a certain
amount of dung and urine is deposited by camels, cattle, sheep and goats.
Whether this deposition is of any value, or is regarded as being of any
value by the cultivator, is not known. The value of animal manure could
easily be ascertained by simple trials at experiment centres; but until
information has been obtained as to the effect of time and method of ap-
plication on the crop, it would be most unwise to preach the value of
animal manure and encourage its use in dryland farming as the application
of cattle dung can attract termites which then pass onto the growing crop
and cause a great deal of damage, especially in the younger stages during
periods of drought. (The Agricultural Expert's personal experience in
northern Nigeria, Southern Rhodesia and central Tanganyika.)
c. Improvement of storage

In all the agricultural areas of Italian Somaliland visited, grain crops are stored by the producers in holes in the ground. These granaries vary considerably in size and construction from place to place and from tribe to tribe, but everywhere safe storage from one season to the next is provided for, as bitter experience of famine has taught the people the necessity for storage. Near Bulo Burti, in a primitive, temporary (five years' duration perhaps) nomadic settlement, pits were seen about one metre in diameter and little more than one metre deep. These were lined with the thrashed heads of durra, filled with grain, covered with chaff, thrashed heads and stalks and then heaped over with some 30 centimetres of earth to form a mound which was trodden firm so that rain water would run off rather than penetrate.

Near Bur Acaba in a well established, relatively large and permanent village, a much larger pit, two metres in diameter and over two metres deep, was seen in course of construction. The low, conical roof made of light poles and durra leaves and stalks was supported just above ground level on a number of strong, forked poles driven into the earth round the base of the pit and one central pole. The pit was well lined with sorghum leaves and, when full, was roofed and covered with earth to form a large mound.

In some places, notably Dinsor, the Mission was told that grain was stored for long periods, and the impression was gained that after good harvests certain pits were filled with grain with the intention of keeping it for years as a last reserve against famine. Crops in 1950 and 1951 were generally good, but much of the grain (durra) seen in the markets had the appearance of having been stored, suggesting that after a good harvest storage pits are opened up, old grain sold off and new grain stored away as a reserve.

In their methods of storage and use of materials, the more settled people show considerable ingenuity and have probably evolved methods of storage well suited to the materials available. Although the methods used by the less settled populations are probably capable of considerable improvement, it is strongly RECOMMENDED that everything be done to encourage the natural providence of these people to store grain in the villages and settlements. A thorough and detailed study by a grain storage entomologist with tropical experience of these methods of storage and evaluations of the loss and damage suffered by grain is RECOMMENDED so that ways may be found of minimizing losses. This will have to be carried out very tactfully as the fear of famine is very real, and grain stores are naturally jealously guarded.

The necessity for grain storage in Italian Somaliland is three-fold:

1) to provide a reserve against occasional famine and local shortages in the grain-growing areas;

2) to annually provide a supply of grain for the non-producing or marginal areas where a grain short-term is permanent;
iii) to counteract major fluctuations in market price.

The Agricultural Expert believes that the requirements of (i) should be met primarily by autochtonous storage by existing methods and improvements thereon. The annual needs of (ii) will normally be met by the overflow from (i) at harvest; but to provide against years when there is little or no surplus, modern bin or silo storage is essential. From the point of view of transport, such grain stores are required both in the production areas and at strategic centres.

The AFIS has a scheme of considerable importance envisaging the establishment of modern storage capacities (silos with a capacity of 50,000 quintals) in an accessible and climatically suitable location to replace the present primitive and wasteful bag store at Vittoria d'Africa. The Mission commends this project which will allow the AFIS to continue its policy of evening out prices and distribution throughout the year and of providing a small secondary grain reserve for deficit areas such as the Midjurtein.

The capital cost of efficient bulk storage is high, and the recurrent cost of collection, protection against pests and distribution is considerable; although provided grain is stored for a relatively short period only, such grain storage projects can be operated in such a way as to be self-liquidating.

The storage of grain as a famine reserve at numerous centres throughout the country is receiving a great deal of attention in territories under both British and French administration throughout tropical Africa, and it cannot be too strongly emphasised that this is a highly technical subject. In the past, storage by the government has not always been as good as storage by autochtonous methods. (See Bibliography No. 27), and it is essential that the grain storage entomologist make himself thoroughly familiar with the types of structures and methods successfully used in other African territories.

B. COTTON GROWING AND THE COTTON INDUSTRY

1. Historical

a. Autochtonous production

A variety of cotton, similar to that found in Ethiopia, is to be found in practically all the agricultural areas of Somaliland, especially along the rivers and in the coastal belt. Until recently this provided the only raw material for the native spinning and weaving industry. In the belt of fixed dunes and for a few miles inland between Mogadishu and Warshiek, cotton was a relatively important production for export and was also used to a considerable extent in the weaving on hand looms, of the brightly coloured cloth with a variety of check design known as futa for which Mogadishu is locally famous. Today the weavers use largely imported yarn, and imported dyes have for the most part replaced native ones. Spinning and weaving continues as a part-time family activity in
many parts of the country, and indigenous wooden gins, spinning wheels and looms are widely used. Examples of these can be seen in the Garessa Museum in Mogadishu. At Iscia Baidoa, "weaving" now appears to consist chiefly of adding a brightly coloured border to lengths of imported cloth.

This cotton plant grows into a bush or small tree and has small hairy leaves. The flowers are yellow, and the boll is small, usually with three locks each and with about five seeds. The lint is short (20 mm.) and rough, and this cotton is classified as *Gossypium herbaceum* (1). It was widely spaced and interplanted in the more important food crops -- in the red sandy soils of the dunal zone with *Eleusine coracana*, in the alluvial soils with *durra* and cowpeas, and in the Juba valley and low-lying areas with maize. Planted in the "Gu" rains, say, in April, the first harvest began in the "Jilal" in January, while if planted in the "Der" rains in September or October, the first harvest was in the "Hagai" by about July.

There are also, according to Bigi (see Bibliography No. 3) three indigenous species of *Gossypium*, all lintless, one of which he identified as *G. benadirense* (Mattei). According to Douwes (see Bibliography No. 13) both *G. Somalense* (Gurke) and *G. stocksii* have been collected in Italian Somaliland.

Among the Matan who really specialized in cotton growing, the crop was interplanted with cowpeas in the second year if vegetative development was not very great. Production in the second year after planting was greater than in the first and was still good in the third year, but by the fourth year yields fell off and the plants were destroyed after the harvest.

According to Romolo Onor, this cotton suffered relatively little from pests and diseases, the chief pests being the cotton seed bug, *Oxycarenus hyalimpennis* Costa, the larvae of which feed chiefly on the seeds in the opening bolls causing loss in seed weight and a lowering in the quality of the fibre, and the stainers *Dysdercus* species.

The principal tribes who produced cotton were the Matan, Murosada, Uadan and Gheledi, and the estimated mean annual export of fibre chiefly to Bombay during the five years, 1909 to 1914, was 400 quintals. The estimated annual export of cotton seed for the same period was 1,500 quintals. All ginning was done by hand using the primitive machines referred to above. It is interesting to record that Romolo Onor, writing in 1917, considered that the autochthonous peasant production of dry land cotton using this variety was capable of considerable expansion.

b. Production under European cultivation

In 1906 Signor Carpanetti planted about seven hectares of cotton on the Torda plain in the Goscia tribal region in the Juba Valley. He tried the Egyptian varieties, Abassi and Afifi, and also American long-staple varieties. Owing to the abundant rains that year, the crop matured without the assistance of irrigation. In the following year Carpanetti continued his trials in the Bulo Bodi area which is also in the Goscia region, but owing to poor rains these were a failure since he was unable to irrigate this cotton.

1/ *G. herbaceum* (L.) race *acerifolium* according to J. B. Hutchinson.
Brishi and Zoni started irrigated plantations of Cerea rubber, citrus fruits and coconuts and the cultivation of cotton in 1909 at Havai on the Lower Webbe Shibeli.

As a result of the propaganda made in favour of Somaliland by Giacomo De Martino who was Governor from 1910 to 1916, many companies were formed and many private individuals came to Somaliland and attempted the cultivation of cotton and other crops along the banks of the Juba and the Webbe Shibeli. On the banks of the Lower Juba, at Margherita, La Societa Romana di Colonizzazione commenced operations in 1910 under the personal direction of Count Frankenstein. Cotton was the major crop, and years of good returns alternated with poor harvests or even complete failures.

In 1912 a Government experimental station was opened at Genale on the Webbe Shibeli under Dott. Romolo Onor, Director of Agriculture in Somaliland from 1910 to 1915, and his results are summarized here:

The Egyptian types - Afifi, Sakellaridis, Nubari, Jannovtch, Abassi-Assili and Sea Island - were grown under irrigation in small comparative plots in 1912 and in 1913. Sakellaridis was better developed and earlier than the other varieties and again proved the best in 1914, yielding 18.2 quintals per hectare (approximately 1,800 lbs. seed cotton per acre.)

The American Upland varieties - Toole, King, Greens seeds, Thoroughbred King, Thoroughbred Toole, King early-improved, Flora- dora, Sunflower and Allen long-staple - were also planted in 1912 under similar conditions. The average yield was 2,650 lbs. seed cotton per acre. Planting dates ranged between 20 April and 10 June.

Both Egyptian and Upland cotton planted in September, 1911 and August, 1912 were a failure due to leaf crinkle and pink boll worm (Platyedra gossypiella) attack.

Onor therefore concluded that, in order to avoid heavy attacks by insect parasites late in the year, Egyptian or Upland cotton would have to be planted early in order to mature early, and consequently no use could be made of the October flood which meant that autochthonous production by natural irrigation would not be possible.

In 1921 irrigated commercial cotton-growing was commenced by the Societa Agricola Italo-Somala (SAIS) at Villaggio under the leadership of Luigi di Savoia, Duca degli Abruzzi, and in 1924 by Italian colonists at Genale and Afgoi on the Webbe Shibeli as part of an extensive programme of colonization by Governor De Vecchi Val Cisman. Out of a total of 1,700 hectares planted the first year at Genale, 1,120 were Sakellaridis cotton. But cotton growing did not provide the agricultural concessions with a sound economic basis for development. First, there was the post-war inflation which was followed by a serious fall in the price of all raw materials. Lack of technical knowledge, monoculture and a heavy incidence of attack by parasites were factors in reducing yields, and after a period of only partial success, many colonists were completely ruined by the world-wide depression in 1930. Those who survived turned to alternative
crops, first castor, then groundnuts and eventually bananas. Only on those concessions where soil and other conditions were particularly favorable did cotton growing continue. Only as a result of the imposition of economic sanctions by the League of Nations and the consequently enhanced price did the acreage again increase.

During the British Military Administration, owing to the necessity for food production, cotton production under European direction did not recommence until 1949. Now, as a result of the very high price paid for cotton in 1950 after a season of very good rainfall, the total acreage in 1951 has increased, and cotton is being grown under contract for export in many non-irrigated areas where it has never been grown before and with an expected production of 34,500 quintals of lint after another season of far-above-average rainfall. (See Appendix 6, Table 3). There is little doubt that the most important factors which have influenced cotton acreage have been economic rather than climatic or environmental.

2. Cotton-growing areas

A map given in Appendix 9 indicates the approximate position and extent of cotton zones within which cotton is being cultivated in 1951. The position of the ginneries is also shown and the main roads. A total of 2,900 hectares is being grown under irrigation and a total of 23,500 hectares on dry land by peasant cultivators. Some 15,000 hectares of this total are in the Juba Valley, and a considerable portion of this area is grown in desceks which have been flooded by the Juba river.

3. Varieties and methods of cultivation

Egyptian type cotton with its long staple and high lustre commands a higher price and is therefore grown rather than American type cotton with its medium length staple and rougher lint. Under favourable conditions the quality of the lint is equal to or better than the best produced in Egypt. New seed (X1730) imported from the Sudan is used every two, or at most, every three years. Otherwise, according to growers, a deterioration in the varietal characteristics is said to occur. However, it was demonstrated by SAIS that this need not be the case as, by a process of line selection, a stable derivative adapted to local conditions was obtained from the original Sakellaridis. This was named Scassel and was grown for several years by SAIS at Villaggio where it not only retained its varietal characteristics but was always quoted a few points higher than the product from freshly imported Egyptian seed. Other Egyptian varieties have been tried by the SAIS but for various reasons were not grown extensively: Ashmuni, Fouadi, Zagora, Pilon, Maharad and certain Giza strains, amongst which No. 21 gave interesting results in 1931. Other experimental introductions from Egypt were American Upland varieties such as King; two Uganda selections, U23 and U29; a variety from Eritrea called Carcabat; and later Acala, Mebane, Delfos and Stoneville. Within this group the best results were obtained from the variety Acala which, under favourable conditions, out-yielded Egyptian cotton. But its more luxuriant growth made it susceptible to attack by pests, and as the value of lint was lower than Egyptian cotton, Acala did not replace Scassel at SAIS. At the present time, Acala No. 411, recently

1/ Named after Professor Scassellati Sforzolini who was responsible for this selection and who was first Director-General of SAIS.
imported from America, is said to be doing well at La Romana in the Lower Juba under irrigation; but its growth would appear to be rather luxuriant for Italian Somaliland conditions.

Commonly a spacing 1 metre x 40 centimetres is used, 4 to 5 seeds being planted by hand in each hole with a thinning to two plants per stand at the first cultivation.

As in most other countries, it has been found that cotton is extremely sensitive to competition by weeds, and timely cultivations are essential if yield is not to be sacrificed. Similarly the young plants have to be thinned to two or three per stand before a certain stage of growth, or yield again suffers. All cotton is apparently planted and weeded by hand except at Villaggio where the SAIS uses machinery for row planting and inter-row cultivation at least in the early stages. A small trial area planted on the square is being cultivated and cross-cultivated mechanically in order to save labour.

According to Bigi (see Bibliography No. 2), a total of about 6,500 cubic metres of irrigation water is required, suitably distributed over the growth cycle. In the Gezira, 14 irrigations are given, totalling about 14,000 cubic metres per hectare. Even allowing for a somewhat lower rainfall - 400 mm. at Wad Medani compared with approximately 600 mm. at Villaggio - this appears to be a very low estimate of the requirements of the crop. On the Webbe Shibeli, during the months of June and July, irrigation, normally by gravity, is either limited or impossible owing to the low level of the river, and pump irrigation which is expensive has to be used. Nor on the Juba is the position with regard to water very satisfactory for an Egyptian-type cotton, because in descoks, crops can only be sown after the flood recedes in October or November, after which little rain falls. On the higher land, however, water has to be raised by pumps, an expensive process and therefore liable to be restricted.

The irrigation water obtained from the Webbe Shibeli contains 11 to 40 parts per million of chlorides, and the accumulation of salts in some of the land which has been under irrigated cultivation has risen to such an extent that this author (Bigi) believes that, looking to the future, cotton may be one of the few crops possible for this region. However, the overall average yield for the period 1931 to 1950 for 19 crops (almost all irrigated) was 1.31 quintals of lint per hectare. (See Bibliography No. 2). This compares very unfavourably with approximately 4 to 4.5 quintals of lint per hectare obtained for the entire commercial crops (from 1930 to 1938) from the Sudan Gezira and the Nile Delta respectively. (See Bibliography No. 10).

Egyptian type cottons, with their large, relatively tender leaves and long fruiting branches, are particularly liable to wind damage; and Sakellaridis, with its hairless leaves, is susceptible to jassid attack. This variety has no tolerance of or immunity to blackarm. Thus, although under favourable conditions good quality lint is obtained, it would appear wiser to grow a somewhat shorter stapled cotton capable of giving higher and more consistent yields under these adverse conditions. No record has been seen of strictly controlled comparative trials of Egyptian and Upland cottons, and it is strongly RECOMMENDED that the offer of assistance in planning such trials made by the director of the Empire Cotton Growing Corporation be made use of. (See Appendix 3). Small quantities of seed from 12 different strains have already been supplied from
Uganda in response to a request by the head of the Agricultural Department, Mogadishu, including the best commercial strain (B.P.52), superior strains with a lint length of 33 mm., jassid-resistant strains developed in Africa and from India, and strains developed in South Africa as being both jassid-resistant and high yielders under low rainfall (500 mm. per annum and droughty conditions.)

The standard Buganda strain (B.P.52), a high quality cotton with lint length up to 32 mm. when grown under favourable conditions and which has been supplied in quantity for growing in Mozambique could be obtained from Uganda if ordered in good time through the Secretary, the Lint Marketing Board, P.O. Box 518, Kampala, Uganda. A618, the most widely grown strain in the Eastern Transvaal under hot, low rainfall conditions and which is fully jassid-resistant is obtainable in commercial quantities from the Barberton Cotton Co-operative, Barberton, Eastern Transvaal, Union of South Africa.

The supplies of seed available in Italian Somaliland will do for planting next season where irrigation water is available, but it is strongly emphasised that to continue to grow Egyptian-type cotton under rainfall in Italian Somaliland is highly speculative, and that to do so is to risk crop failure in all but occasional seasons and under exceptional conditions, i.e., planting in depressions or at the foot of the dunes where there is additional subsoil moisture.

The quality and length of lint produced by a given variety depends very much upon the conditions under which it is grown. This fact does not appear to be appreciated by cotton-producing interests in Italian Somaliland. Even in Uganda, with a very much higher and better distributed rainfall, it has been found preferable to grow an American Upland type cotton rather than Egyptian cotton. According to the secretary of the Lint Marketing Board in Uganda, the quality of lint produced in a given area depends more on the climatic conditions in that area than on the particular strain grown.

According to Balls (see Bibliography No. 1), investigations of the actual prices realized by different consignments of Egyptian cotton over a long period of years showed that "what the spinner wanted from the grower was just strength. The answer was as simple as that."

Lint produced by a variety grown under conditions to which it is ill-adapted, especially when moisture is lacking, is almost certain to be weak. This is an additional reason why Egyptian cotton should be replaced in Italian Somaliland by a more drought-resistant type for growing under dryland conditions.

It is, however, extremely difficult to recommend a variety for bulk planting in rainfed areas when none of the varieties that might be suitable has so far been given a trial in Italian Somaliland. Either of the two varieties referred to above might be suitable; and of the two, A618 from South Africa would be the more suitable from the point of view of jassid-resistance and its ability to stand up to severe drought conditions.

Another variety, which is not only jassid-resistant but highly resistant to blackarm and is a good, medium-long American type, is 26C which might be obtained in small commercial quantities through the Department of Marketing and Exports, Lagos, Nigeria.
If it is decided to issue seed for planting purely as a rainfed crop by peasant farmers in the interior, it would undoubtedly be preferable to distribute seed of any one of these varieties rather than Egyptian-type seed.

The present situation where seed distribution is left in the hands of ginners and others who may or may not have any technical knowledge of the climatic requirements of the variety used should not be allowed to continue.

4. Pests and diseases of cotton

Two rainy seasons a year with high relative humidities, except for the three months "Jilal" (January to March), and the existence of numerous wild plants belonging to the same family as cotton produce conditions particularly favourable to numerous diseases and pests. The rapidity with which these pests can spread and multiply is phenomenal, and in past years many can remember an expected yield of over two quintals of lint per hectare being reduced to under half a quintal in this way.

a. Insect pests

Cotton in Italian Somaliland is subject to attacks by insects in all stages of its growth, and insect attack is undoubtedly one of the factors which limit the economics of cotton production in the country. The entomology of cotton parasites was studied by Chiaromonte, who spent 12 months in 1926 and 1927 based at the SAIS at Villaggio Duca degli Abruzzi, (see Bibliography No. 4 and 30), and by Russo in 1935. (See Bibliography No. 33 and 34).

In later years, up to 1940, the whole question of cotton cultivation in the then Italian East Africa was studied by Bigi, and a fairly detailed account of densities of attack by various pests is given by him. (See Bibliography No. 3). Undoubtedly the most serious pest is the Pink bollworm Platyedra gossypiella (Saund).

According to Bigi, this insect normally goes through five or six generations during the growing period of the crop. In certain areas and seasons it causes very severe damage not only directly, but also indirectly by admitting secondary parasites and diseases. The larvae have been found on Hibiscus cannabinus and H. dongolensis (Del.) which are common indigenous plants especially in the two river valleys. For this reason, the control of this parasite is bound to be difficult; but on the other hand, there is no evidence that it undergoes a diapause as in Egypt and in countries where there is a long and pronounced dry season. (See Bibliography No. 32).

There is no point, therefore, in the heat treatment of seed, but there is every reason for having a strictly enforced close season which should be as long as possible.

The Stainer Disderons cardinalus (Gerst) does a considerable amount of damage, especially in the Juba Valley; but only one really serious infestation has been recorded in Webbe Shibeli Valley, and that was at Havai in 1933.
Jassids, *Empoasca facialis* (Jac.), cause a very severe leaf curl and defoliation in both the Webbe Shibeli and Juba areas in certain seasons. According to Bigi a density of one or two larvae or nymphs per 100 leaves is normal after one or two months' growth, and by the end of five months this frequently rises to 40 or 50. In certain areas, severe wrinkling has been recorded with only a minor infestation by jassids, and at one time it was thought that this fact was perhaps due to another cause; for example, salinity (see Bibliography No. 34) or insufficient irrigation; but it is fairly clear that the major cause is in fact the jassid. The Egyptian-type coton grown are very susceptible to jassid attack, but jassid resistant varieties of long-staple Upland types have been developed in South Africa and in Nigeria.

Other insect parasites, none of them being as serious as the foregoing, are: *Nezara viridula* (L.), variety *smaragdula* (F.), the Emerald bug which can cause a certain amount of boll rot; *Calidea dregi* (Germ.), which is a plant bug and can cause staining of cotton but is not common; *Oxycarenus hyalinipennis* (Costa), the cotton seed bug which causes a certain amount of damage both to seed and fibre in the opening bolls; *Aphis gossypii* (Glover), the cotton aphis which commonly occurs but which rarely does much damage; *Chloridea armigera* (Hb.), the American boll worm which occurs, but there is only one record of serious damage in Italian Somaliland and that was August, 1933 in the Juba area on autochtonous grown cotton; *Diparopsis castanea* (Hps.), the Sudan or red boll worm which occurs elsewhere but is relatively unimportant compared with pink boll worm; *Earias bimaculata* (Lslk.), the spiny boll worm which is found on cotton and also on *Hibiscus esculentus* but does not do any serious damage.

b. Pathological diseases

The most serious disease of cotton in Italian Somaliland is caused by *Xanthomomas malvacearum* (Sm.), previously known as *Bacterium malvacearum*, blackarm or bacterial blight which was not recorded in Somaliland before 1939 when, according to Bigi, it was probably introduced with seed of the American variety Acala. Breeding for blackarm resistance has been and still is one of the major activities of the Empire Cotton Growing Corporation in Uganda, and blackarm resistant strains of long staple Upland types of cotton are available.

Other less serious diseases are caused by *Rhizoctonia solani* which can cause a certain loss of seedlings; *Cercosporella gossypii*; *Ureda gossypina*; *Sphaerella gossypina*, *Nematospora* species and *Alternaria* species which have been recorded on cotton but are not known to do any serious damage.

c. Need for further investigations

Very valuable work has been done by the authors mentioned; but with the extension of cotton growing beyond the irrigated areas of the European concessions and the fact that from now on it is likely to be grown by autochtonous peasant farmers on their own account rather than as employees of Europeans, it is essential that a further detailed study of the pests and, to a lesser extent, the diseases of cotton be undertaken in the field by a competent entomologist in co-operation with agronomists at the different experimental centres.

1/ See Appendix 3.
d. Damage due to other causes

Wind. Especially during the months from June to September high winds with a velocity of up to eight metres per second, according to Bigi, are experienced, and the southwest monsoon blows almost constantly. This causes a considerable amount of damage to the Egyptian-type cotton widely grown. Shorter and less luxuriant Upland types would undoubtedly be less susceptible to wind damage.

5. The establishment of a close season and the regulation of planting dates for Cotton

As a means of controlling pests, particularly pink bollworm, and diseases, notably blackarm, it is essential that agreement be reached on the establishment of a close season throughout the country before which all cotton picking must be completed, all cotton must be uprooted and all residue be destroyed, preferably by fire. The commencement of the close season should be as early as is practical so as to allow as long a period as possible before the planting of the new crop, during which there will be no cotton plants upon which pests and diseases can live and multiply. This is a widely accepted means of control, and the Mission is indebted to the director and staff of the Empire Cotton Growing Corporation, Headquarters Research Station at Namulonge in Uganda for strongly recommending that a decision be reached and action taken on this as soon as possible, as pink bollworm, which is a major pest, is particularly susceptible to this form of control in countries such as Somaliland where no diapause or larval resting stage is known to exist. There should be no provision for delaying the enforcement of the close season once this is established.

Legislation for the enforcement of a close season beginning at the end of February existed, but the date of the commencement of the close season was postponed until 30 April by decree in 1950. In 1951, as a result of requests by those interested in late-planted cotton, the date was further postponed until 20 May 1951 by which date a considerable proportion of the current season's cotton crop had already been planted, so there was, in fact, no close season and the legislation providing for one was rendered futile.

Seasons vary so much from year to year that even among these who have grown irrigated cotton under similar conditions for many years there is no agreement as to the best time to plant cotton. Certainly in many seasons later planted cotton has suffered more from pests and diseases than early planted cotton, but this has not always been the case; and later planted cotton which enjoys the benefit of the "Der" flood in October-November has the advantage of being picked in the "Jilal" when there is practically no risk of the quality of the lint being spoiled by rain as is the case of cotton planted during the "Gu" season and harvested from September onwards.1/

Even in the same region cotton is grown under more than one set of conditions. In the Lower Juba it is grown

a) on European concessions under controlled irrigation,

1/ See recommendation made re study of records of yield in relation to rainfall in Appendix 3.
b) in desceks by natural or only partially controlled flooding, and

c) on dry land by rainfall supplemented by subsoil moisture.

The "Gu" rains are generally heavier and more reliable than the "Der" rains in the Lower Juba, so dry land planting tends to be early; but as only the "Der" flood normally fills many of the desceks, planting in these is often six months later. In some season there may be crops at various stages of growth during the whole year not many kilometres apart. With controlled irrigation it is possible to plant cotton almost any time between April and October, and this applies to concessions on the Webbe Shibeli as well as on the Juba.

In the coastal belt, rain falls irregularly between mid-March and early December, and the "Gu" and "Der" seasons are often not at all clearly defined, so that cotton can be planted over a period of months in most years. But these two rainy seasons become entirely distinct some 150 kilometres inland where the "Hagai" season (June to September) is normally very dry, and it is seldom possible to plant during this period.

Another factor that must be taken into account before arriving at a decision is the paramount importance of insuring that the production of cotton or other cash crops does not compete with the limited manpower available to the peasant for the production of essential food crops, not only for himself but for normal trade with predominantly pastoral neighbours, for sale and storage against famine and for feeding areas which cannot produce grain due to inadequate rainfall. The major food crops are generally planted early in the year so that from this point of view it would be better to plant cotton late.

A decision must be reached soon so that a later planting date in 1952 may be established in relation to the close season in 1953. Whatever decision is reached will inevitably restrict the freedom of certain growers and may cause some hardship and apparent injustice; and it is therefore important that the interests of the country as a whole be considered. Cotton production without flooding or irrigation is bound to be precarious, and it would therefore appear that purely rain-fed cotton growing interests should take second place. Taking a long term view, cotton production by controlled flooding rather than by pump irrigation is likely to be more economic, and in this case full use must be made of the "Der" floods in October and November. This implies late planting and a close season late in the "Jilal" and extending into the "Gu" rains. In order to prevent a heavy build-up in the population of pink bollworm and other pests, it will be essential to enforce the observance of this close season very strictly. In order to assist in ensuring that the close season is strictly observed, it is RECOMMENDED that an ultimate planting date be established after which it will be illegal to plant cotton.

6. The organization of labour for cotton production

The relative scarcity of labour and the difficulty experienced in persuading individuals to work continuously or even consistently were recognized at an early date as limiting factors in the production of crops, especially of cotton, which make great demands on labour both for cultivation during the growing
period and for picking during the period of harvest.

Among the Somali people, the pasturing of livestock and the nomadic way of life that this implies is generally regarded as being more dignified than cultivating the soil; and in their traditional society the settled and primarily agricultural people, even when belonging to the same tribe but more particularly when of Bantu origin, have an inferior social status. Each occupation, in fact, carries with it a different position in the social scale, and cultivation for the purpose of food production for the family is much more dignified than growing cotton for sale. Furthermore, to a Somali, as to many other people in Africa, working as a paid agricultural labourer is one of the lowest forms of occupation. This, of course, is dealt with in detail by the Expert of Nomadic Question. In addition to this, those parts of Italian Somaliland where irrigated agriculture is possible, that is the middle and lower valleys of the Webbe Shibeli and the Juba, are underpopulated. By this it is meant that there is no lack of fertile land, and the people are therefore under no economic compulsion to work for a wage. Even the areas between these two rivers and the parts of the coastal belt where rainfed agriculture is possible do not appear to be over-populated. The only areas where there is real pressure of population are in the Midjurtein and parts of the Mudugh where the people are nomads unaccustomed, and to a degree unsuited by their physique, to agricultural labour.

The reasons for this lack of population in the riverine areas are not difficult to find and are dealt with in detail by the Public Health Expert. Malaria and waterborne diseases together with an absence of elementary hygienic precautions and a diet that, for children particularly, is often ill balanced, result in a high infant mortality and a slow natural increase in population. Especially in the Lower Webbe Shibeli and Lower Juba Valleys there are extensive areas of bush infested with tsetse where it is impossible to keep cows and difficult even to keep goats so that meat and livestock products can only be obtained by trading with nomadic herdsman at certain times of the year. A detailed ecological and land utilization survey and study, as recommended by both the Pastoral Expert and the Agricultural Expert, will indicate what type of bush clearing will have to be undertaken. By analogy, from experience in Nigeria (see Bibliography No. 47) and elsewhere, a certain measure of concentration of existing populations will be necessary in order to ensure that selected areas can be cleared, and once cleared kept free of tsetse. Communication in these valleys is very difficult owing to the heavy silted soils. During the rains, and more particularly when the rivers are in flood, there will be many areas which must remain isolated for periods of weeks at a time. To control tsetse and mosquitoes and to reduce disease due directly or indirectly to water, presupposed a certain availability of labour; in this case we are up against a vicious circle into which it is going to be difficult to break. Only a detailed study in the field can suggest a way; but in the meantime, owing to the small population in relation to the areas involved, it would be unwise to plan any big developments here.

A number of serious attempts along different lines have been made to utilize labour more efficiently for agricultural export production than is possible by direct employment for the psychological and social reasons given above.

The Societa Agricola Italo-Somalo which was constituted in Milan as a
limited liability company in 1920 with the Duke of Abruzzi as president and with a capital of 24 million lire increased to 35 million in 1935, was established in the middle of the Shidley tribal area as a result of a technical mission which visited Italian Somaliland in 1919 and 1920. This mission selected this area on the Webbe Shibeli for its nearness to and ease of communication with Mogadishu, the large extent of level fertile soil on both banks of the river, good pasture, limited infestation by tsetse which made possible the use of cattle for work, and more particularly because of the relatively large number of docile, able-bodied people there who were accustomed to working in the fields. It is worthy of record that this same mission rejected the possibility of irrigated development on the Juba on the grounds, among others, that a very large barrage would be necessary requiring too large a capital investment in relation to the labour available for agricultural purposes. (see Bibliography No. 31). According to this author, Repetti, a large area of land on the left bank of the Webbe Shibeli was acquired from the local Shidley tribe, and an agreement was reached whereby for a period of 99 years, people living in the acquired land would be settled under improved conditions and allowed to produce sufficient food for themselves, provided they grew, in addition, an equal area of crops for the Society. On this basis "colonial contracts" on a 4-year basis were entered into with individuals. Each was given a building plot and a money grant to build a hut in a village of 60 to 80 huts, the village itself being provided with a well, mosque and shop. In the case of a married man, two hectares of cleared and levelled irrigable land were provided, half of which had to be planted with maize and half with cotton which was to be sold to the Society at agreed prices according to three grades. The Society carried out preplanting cultivations which were charged to the account of the head of the family. Advances of grain were made and goods provided on credit. When the cotton was brought in, its value was put to the credit of the head of the family. Each adult member of a family when not working on his own plot had to work for a wage on the Society's irrigated lands not occupied by colonists where sugar cane, bananas, ground nuts and plantation crops were grown. Free medical attention, food allowances for children, financial assistance to bachelors to get married and other benefits were given, and provision was made for keeping of milch cows. By the end of 1931 there were 2,655 families of colonists, of which 2,300 were effectively present. According to Bigi, (see Bibliography No. 2) the value of this system was recognized at the session of the International Conference on the Rights of Labour held in Paris in 1935. However, many difficulties were encountered, and it is not known to what extent this system was extended after 1931. It was abolished during the British Military occupation. A somewhat different system was developed earlier in the Lower Juba valley by the Societa Romana de Colonizzazione and is continued today. The Society simply provides seed and gives technical directions, while the individual peasant farmer grows the cotton on his usual shamba (small farm or garden) using his customary hand tools and methods of cultivation. Cash advances are given to cotton growers in accordance with the area planted and the condition of the crop, and these are deducted from the amount realized by the eventual sale of the cotton to the Society according to a pre-arranged price. Every agreement between the Society and an individual grower is recorded in the form of a co-participation contract (see Appendix No. 7) in which the grower agrees to bring the cotton he has produced to the Society for purchase at a price to be fixed by the Administration.
These two methods have to a certain extent been combined by numbers of concessionaires in both the Lower Juba and Genale areas who have found that to pay labour to plant, hoe and pick cotton is not economic. Instead they have persuaded local peasants to plant and grow cotton on their concessions, providing them with the cleaned land, seed and irrigation water when required; giving them maize seed to plant in between the rows of cotton for themselves and giving them cash advances on condition, of course, that the cotton is picked and sold to the owner of the concession only. These agreements are also recorded in the form of co-participation contracts signed or sealed in front of the Resident and lodged with him.

With the very great increase in price at the end of 1950 and early 1951, the system of co-participation developed in the Lower Juba was extended by a number of concessionaires to areas outside the valleys of the two rivers which were the only areas where cotton had been produced under European direction hitherto. Arrangements were made and agreements were signed with chiefs on behalf of their people or with individuals growing relatively large areas (up to 60 hectares) of cotton employing paid labour, and in other cases with individuals growing only about one hectare or less. According to information provided by the Director of Agriculture, Dr. Bozzi, the total area of dry land under cotton cultivation in co-participation is 23,500 hectares this season, and the expected yield is 29,500 quintals of lint. Even some of the strictly nomadic people, for example those living around Afmadu, have been persuaded to grow cotton which would indicate that the old ideas of what is a dignified occupation and what is not are disappearing in the face of a suitably attractive incentive.

The history of the utilization of labour, primarily in connection with cotton growing, has been given in some detail so that the term "co-participation", which is widely used today, may be better understood. As a means of persuading the peasant cultivator to grow a new cash crop, the co-participation arrangements made have undoubtedly been useful. However, but for the high price that the Italian entrepreneur has been able to offer to the autochthonous producer, it is certain that no efforts on his part would have persuaded the people to grow this cotton.

For reasons dealt with more fully in another section of this report (Section C. Cotton Growing, 7. Marketing and Ginning), various interests have been pressing for re-introduction of the system which was adopted in the Lower Juba in 1938 (see Bibliography No. 2), i.e., the granting of sole rights to enter into co-participation agreements and purchase cotton in certain areas. It is felt that the granting of such sole rights of purchase would be open to serious abuse and is therefore not recommended. Every co-participation agreement necessitates records being kept by both a representative of the AFIS and by the entrepreneur. The making of cash advances arose from a similar system adapted to the financing of farming operation by European concessionaires, but it is cumbersome and ill-adapted for application to a multitude of small peasant cultivators.

It is RECOMMENDED, therefore, that this system of co-participation contracts for small producers be replaced as soon as possible by a more rational system of marketing such as is suggested in Section C. (Cotton Growing, 7. Marketing and Ginning). The further extension of this system as it stands is therefore NOT RECOMMENDED.
A far better way of encouraging autochthonous production of cash crops will be the provision of better constructed stores supplied with a greater variety of more attractive consumption goods than at present provided by the little Arab dukas which compare so unfavourably with similar shops elsewhere in East Africa. This point of view should be given the attention of all interests concerned in the cotton growing industry.

In the economic field it must be recognized that in order to secure the production of crops for export it is necessary to make provision for the import of sufficient consumer goods of the type and quality desired by and attractive to the consumer.

The possibility of mechanizing the harvesting of cotton should not be overlooked, but certain factors must be borne in mind:

a) a number of different types of machines are available; the best are expensive;

b) the variety of cotton grown needs to be well adapted to the machine used, and vice versa;

c) the quality of cotton lint produced is always inferior to hand picked cotton as the latter is cleaner and therefore commands a higher price;

d) even under the most favourable conditions, a proportion of the crop is left in the field and wasted;

e) after picking by less expensive machines, the seed cotton has to be cleaned by machine before ginning; and

f) these machines have only found a use so far in countries where standards of living are very high and where labour is very expensive, i.e., the United States of America and Queensland, Australia, and even then they can only compete with hand labour when the crop is a heavy one. (See Bibliography No. 29).

7. Marketing and Ginning

Out of a total of 26,400 hectares, only 2,900 hectares are recorded as being grown under irrigation during the current season 1951-52. A proportion of these 2,900 hectares is grown by peasant farmers on their own account under co-participation agreements with European concessionaires, and the actual area grown by Europeans employing paid labour is considerably less than this figure. We may say, therefore, that the greater part of the crop is grown by autochthonous producers.

Co-participation agreements are signed and registered in the office of the
A typical co-participation agreement is given in Appendix 7. These agreements are drawn up in an attempt to prevent a cultivator from obtaining cash advances against his crop from more than one entrepreneur and to ensure that he sells all the cotton he produces to the entrepreneur who provided him with seed gratis. Even so it has been found that growers do not always respect this agreement. It is very difficult to ensure that the offer of a higher price or an additional advance by another prospective buyer does not result in the agreement being broken. This has given rise to a demand for some form of control, and certain interests would like to see the country divided into cotton districts in which sole rights to co-participation agreements and to cotton buying would be granted. It is difficult to see how this arrangement could be made under the conditions of the Trusteeship Agreement, nor is it considered to be desirable by the Mission.

There are at present four ginneries in operation at: Villaggio Duca degli Abruzzi (SAIS), Afgoi, Genale and Margherita (Lower Juba). In addition, two ginneries are under construction in Mogadishu and in the Lower Juba respectively. In relation to the cotton growing areas, these ginneries are fairly well placed, but if cotton growing continues to be undertaken successfully in the dryland areas between the two rivers, then at least one additional ginnery, situated preferably at Iscia Baidoa, will be required.

At present seed cotton is bought by the owners of ginneries either directly from peasant producers under co-participation agreements or indirectly from European concessionaires upon whose land cotton is grown under co-participation agreements by peasant cultivators. There is no provision for the free marketing of cotton by the producers, and although there is at present no desire for a free market, this desire will undoubtedly arise in the near future. It is therefore considered essential to make provisions as soon as possible for the organized marketing of cotton by the primary producers, that is by the autochthonous peasant cultivators.

The market value of cotton lint in bales depends on the type or variety and length of staple, uniformity and consequent reputation of the source of origin, the maturity, colour and freedom from dirt and diseased lint. Within a given type, cotton lint marketed in even as few as two grades will earn a considerably better return than the same cotton sold ungraded. Ungraded cotton will inevitably be variable in quality, and the buyer will mark it down to the lowest grade found in the sample.

When picking is done by hand, it requires no additional labour to produce first and second grade cotton and to exclude dirt and worthless material. Experience elsewhere in Africa has shown that the peasant producer will quickly learn to pick cotton carefully provided he can obtain an enhanced price for first grade cotton. When he is picking cotton on his own account, he is more likely to take the trouble to pick it clean and grade it carefully than when picking cotton as a paid labourer. In Southern Rhodesia, where cotton is grown both by European farmers and by peasants on their own shambas, the cotton produced by the peasants averages a higher grade than that produced by Europeans.

While there is a brisk demand for cotton and the price is high, as has been the case recently, it is possible to market almost any grade of lint. But as soon as demand falls off experience has shown that there is considerable diffi-
culty in disposing of low grades of cotton of variable quality and that the price obtained may be so low as to make production uneconomic. For this reason the Agricultural Expert believes that it is imperative to introduce a system of grading for all cotton as soon as possible in order to safeguard the future of the industry and to build up a good reputation for Italian Somaliland cotton.

The rapidity with which the acreage of cotton grown in co-participation has increased demonstrates the very great influence that can be exerted by a small number of Europeans who understand the Somali people and their needs. It is all the more important that everything be done to ensure that this confidence in European technical and commercial leadership is maintained and cotton growing put on a permanent basis. A fall in price, very low yields due to drought or disease or a combination of both might easily take place; and so long as the growing of cotton depends upon contracts between individuals, there is nothing to prevent the owner of a ginnery from deciding to discontinue the supply of seeds to peasant co-participators because he personally does not consider it profitable to continue in a particular area or season, without reference to the future economy of the country.

From a first hand study of marketing methods in Northern Nigeria and in Uganda, it is clear that the system of grading and marketing used in Northern Nigeria is much more suitable for adapting to conditions in Italian Somaliland than the system in Uganda. (See Appendix 3). In Northern Nigeria the cotton growing region is divided into districts corresponding to centres of production and convenient for marketing. At the beginning of each season, cotton markets are gazetted, and applications are called for by buyers. Usually applicants from two to three reputable buyers are accepted for each market. Shortly before the picking season, temporary grading shelters and market stalls made of grass mats are erected either in or on the outskirts of the towns or villages gazetted. No cotton may be purchased within a cotton district except at the gazetted market, and the opening and closing dates of each market are gazetted according to the season. Each bundle of cotton, whether it be head load or donkey load, must be brought by the owner into the grading shed and opened up for the native grader to see. He gives the owner a red ticket if it is first grade or a green ticket if it is second grade. If it contains too much dirt or diseased cotton to reach second grade, the grader is authorized to refuse to issue a ticket, in which case the owner cannot sell his cotton and has to take it out of the market and pick it over before bringing it back for inspection a second time. With his ticket the owner takes his cotton to one of the buyers' stalls where the cotton is weighed, and he is paid in cash, the ticket being retained with the weight recorded on it as a check. A guard or policeman of the local administration is stationed to see that complaints about under-payment can be investigated on the spot and to see that the grades of cotton are not mixed after being bought. The Agricultural Officer and his native staff are responsible for the training and inspection of cotton graders, and the supervision of cotton markets is usually a joint responsibility of administrative and technical services.

Under this system there is no provision for advances, but in practice, the peasant grower obtains a certain amount of food, clothing and household articles on credit from one of the buyers who invariably has a duka in the village or town where the cotton market is situated. All this is done on a very personal
basis, the clerks who manage the dukas and do the buying as paid employees of commercial organizations naturally take good care to keep well informed about crop prospects of their customers' cotton shambas and the extent to which they owe credit to other dukas.

The provision of suitable attractive trade goods in sufficient quantity is recognized as being of paramount importance in building up and maintaining cotton growing, and it is worth mentioning that during the war when industrial production and shipping capacity were strained to the utmost, high priority was given to the provision and shipment of trade goods for sale in cotton producing areas.

It is RECOMMENDED that arrangements be made for a member of the Agricultural Department with first hand practical experience in extension work with peasant cultivators in Italian Somaliland to visit Northern Nigeria to study the system of transportation, grading, marketing and seed distribution in use there; and that, on his return, he be charged with the building up of a grading and marketing organization of cotton in Italian Somaliland.

8. The Organization of the Cotton Growing Industry

The foregoing, it is hoped, has shown the necessity for organizing cotton growing in this country and the impossibility of building up a stable industry of any serious economic importance on the present basis.

The cotton grown in Italian Somaliland is at present earning a considerable sum of money in Italy for the exporters. The cost of setting up a cotton breeding and research station and of developing a marketing organization will be considerable. The effects of cotton breeding, selection, and testing cannot be felt to any extent for at least four years, and it is essential therefore to plan on a long-term basis. In other cotton producing countries in Africa it is an accepted principle that the cotton industry, in addition to the government of the country concerned, makes a considerable contribution to cotton research and development. Funds are raised in various ways in different countries, and here it is suggested that the most convenient point at which to tap the source of income available would be by means of a small percentage levied on the declared export value of the cotton baled. This levy would then be put into a cess or fund for cotton development. The Agricultural Expert believes it is important to do it this way so that a substantial contribution is made in years when the export value of the crop is high. If for any reason the export value falls to a low level the contribution is correspondingly reduced.

In order to organize and control the cotton industry in Somaliland, it would be logical to include representatives of all groups interested. These are the ginners, the concessionaires - hitherto growing cotton in co-participation or on their own account, SAIS and the Somali peasant producer. The local spinning and weaving industry should also be represented. It is obviously

1/ A cotton weaving mill with 100 looms has been set up in Mogadishu, and the training of Somali women as operators has commenced. The production of drill, grey sheeting and other qualities of plain cloth for the local market, using imported yarn, is due to begin very shortly. Space is available on the factory site for a spinning mill, and if medium staple cotton (25 to 30 mm.) becomes available locally, it is understood that the company will erect the necessary plant.
important to include Somali interests so that the people of Somaliland have the opportunity of developing an interest and exercising some control in an economic industry which may become of major importance to the country.

C. OIL SEEDS

1. Sesame

Sesame is very widely grown in all parts of Italian Somaliland where agriculture is possible. This crop requires a plentiful supply of soil and subsoil moisture but does best under conditions where the atmosphere is relatively dry. It is therefore grown in depressions, usually being planted late so that it flowers and matures during one of the dry seasons.

Sesame was seen at all stages of growth in the Lower Juba. Some of it had been harvested by October. In the same region, however, it is planted in desceks as the water recedes, and in this case may not ripen until January or February. In various parts of the country a considerable amount of this oil seed is pressed in primitive wooden mills driven by camels; both sesame seed and sesame oil are exported, especially in season of plenty. It is normally sown in holes with 15 or 20 seeds in each hole, from 0.5 to 1.0 metres apart. The crop is subject to attacks by a number of insects, and a great deal of damage is frequently done to the blossoms and developing fruit by Antigastra catalaunalis (Dup.), a leaf roller which can decimate the crop. Further studies on the biology of this pest are RECOMMENDED.

The crop is cut to within a few inches of ground level when the earlier capsules have begun to ripen and stacked in small stooks which are left for two weeks or more depending on the weather. When ripe, the seed is shaken out on to mats placed on the ground by the stooks. Great care has to be taken in doing this because the seed falls out very readily; for this reason, when the crop is cut, the stooks are usually put all together in a corner of the field so as to avoid having to move them when dry.

Owing to the amount of labour involved, sesame is not normally grown on European-owned concessions. It is said, however, that a non-shattering high-yielding variety of sesame has been developed in Venezuela by Dr. Langham who was working there until recently. It is RECOMMENDED that every effort should be made to obtain seed of this variety for trial, particularly at the experiment station at Genale.

The crops that can be grown economically in concessions in the Genale area are very limited, and if this variety of sesame can be obtained and proves in fact to be capable of mechanization, it would be a valuable introduction into Italian Somaliland.

2. Groundnuts

Groundnuts do not appear to have been grown in Italian Somaliland before Italian colonization. Neither Onor (see Bibliography No. 28) nor Tozzi (see Bibliography No. 37) refers to groundnuts as being grown by the autochtones. During the visit of the Mission to Italian Somaliland the impression was gained
that this crop is only grown by autochtones for their own use and local trade to a very small extent, chiefly from seed obtained from Europeans. Both Kandeish and a small Spanish type were seen in the Juba Valley. The crop was introduced during the early days of Italian colonization and has since been grown to a limited extent on most concessions.

At Genale in 1913 Onor grew six varieties from French West Africa and one from British East Africa under irrigation with moderate success; but he noted that much care had to be taken not to leave nuts in the ground when digging and that harvesting was expensive in terms of the labour required. In 1937 Mazzari described the results of 10 years' experience of groundnuts under irrigation at Genale (see Bibliography No. 26) and grew the following varieties:

Coromandel - runner: pods contain 2 or 3 small kernels.
Kandeish - erect: pods contain 2 or 3 light coloured kernels.
Spanish - 3-4 erect: pods contain 3 to 4 bright reddish kernels.
Spanish - 1-4 erect: pods contain 1 to 4 bright reddish kernels.
Spanish - 1-2 erect: pods contain 1 to 2 small light coloured kernels.

The first two were grown for export in the shell for the confectionery trade, but they were expensive to harvest as they are runners. Of the remaining varieties grown primarily for their oil content, Coromandel was found unsuitable for the same reason; and of the bunch types, Kandeish (or Krandesh) was the best and is the only variety widely grown today.

Spanish, Kandeish and Coromandel mature in about 110 days and the large seeded varieties in up to 130 days at Genale.

At Genale, as in the other concession areas, there is not much temperature variation throughout the year, the highest recorded being 40°C and the lowest 18°C, with a mean daily temperature only varying between 25°C and 30°C. The lowest temperatures are usually recorded during the "Hagai" season (August-September), while the highest are recorded during the "Jilal" in March or early in April just before the onset of the "Gu" rains.

Experiments between 1927 and 1937 clearly indicated that groundnuts should be grown during the "Der" season rather than during the "Gu". Sowing during the "Gu" rains in April or May and harvested in September, the relatively low temperatures retard flowering and maturation, and the occasional rains which fall during the "Hagai" season can cause germination of the ripe kernels and difficulties in harvesting. Sown in October or November during the "Der" rains, the plants grow during a period of rising temperatures and mature more rapidly and evenly and are harvested in January or February during the "Jilal" when rain very rarely falls. According to the same author, Mazzari, higher atmospheric humidities during the "Hagai" favour plant parasites, and Cercospora species leaf spot is liable to be more serious in "Gu" planted crops. Observations made during the visit of the Mission bear this out.

A number of crops of Kandeish groundnuts seen growing under irrigation both
in the Lower Juba and the Genale areas in September, which had been planted during the "Gu" rains, were yellowish and poorly developed, having the appearance of suffering from excess moisture. Many plants examined were suffering from a collar rot similar to that associated with Aspergillus niger in Tanganyika (see Bibliography No. 49). This fungus was not, however, recorded as occurring on groundnuts by Castellani and Ciferri (see Bibliography No. 12). Nuts in the shell which had been harvested about a year ago from a "Gu" season planting in 1950 were poorly developed. 10 - 15 quintal/hectare unshelled, the estimated yield is very low for an irrigated crop.

Groundnuts are best grown in sandy or very friable soils, and the major groundnut areas of the United States, British and French West Africa have soils which normally consist, on a dry matter basis of over 90 per cent sand. Many of the soils of the concession areas in Italian Somaliland are too heavy to make mechanical harvesting practical, and groundnuts should be grown in the sandier soils. Groundnuts are very susceptible to poor drainage, water-logging or lack of aeration, and for this reason also, well drained sandy soils are preferable.

Experience in Tanganyika and elsewhere has indicated very clearly that soils with a high lime content and a high pH, especially if over 7.5, are not really suitable for groundnut production. These are characteristics of many Italian Somaliland soils, especially those of the Webbe Shibeli Valley.

All the crops seen had been planted entirely by hand, and in many cases in rows too irregular for even partially mechanized harvesting. Mozzari refers to an attempt to mechanize planting, but came to the conclusion that the planters available at that time would require certain modifications before they could be used for groundnuts. Today many different types of planters made primarily for sowing maize or cotton can easily be adapted for planting groundnuts. Suitable row widths for mechanical planting in straight rows are from 60 centimetres to 100 centimetres using as narrow a row width as will allow the tractor to pass and still being consistent with the setting of the machinery required for other crops. For bunch types, where water is not a limiting factor, spacings between 5 centimetres and 10 centimetres in the row should be used.

Providing the soil is not too heavy and digging is done when the soil is reasonably dry but not baked hard, groundnuts can be lifted using digger blades which are obtainable for attachment to most modern row-crop tractors.

It is understood that Doctors Bigi and Bozzi are visiting the United States with a view to studying the mechanization of various crops. This is welcomed, but it is strongly RECOMMENDED that before any final decisions are taken or purchases made, personal visits be paid to other territories to study the modifications that have had to be made to modern agricultural machinery and implements to suit African conditions. In respect to groundnuts, visits to Tanganyika would enable growers in Italian Somaliland to profit from the experience of the Overseas Food Corporation, not only in the matter of mechanization but also on the question of varieties, pests and diseases.

Pests and diseases of groundnuts have not been recorded as being serious hitherto, but since both rosette and leaf spot (Cercospora species) occur, the
importance of a close season of as long duration as possible cannot be over-emphasized. Work by Dr. Evans of the Overseas Food Corporation, Tanganyika, has indicated very clearly that volunteer plants are an important factor in carrying both virus and insect vector (Aphis species) from one season to another. It is reasonable to suppose therefore that, if groundnuts are grown in both "Gu" and "Der" seasons, there is every possibility that rosette infection might become very serious if climatic and other conditions happened to be suitable. There is also evidence that attack by Cercospora species occurs most severely and at an earlier stage of growth when there are sources of infection such as a mature crop or crop residues in the vicinity. This is another reason why planting should not extend over a long period. It is therefore RECOMMENDED that, from a study of past experience and by agreement of those interested, groundnut production be limited to either the "Gu" or "Der" season and that a latest harvesting date and earliest planting date be established well in advance and strictly adhered to.

The Agricultural Expert found that there was a belief in Italian Somaliland that groundnut seed, especially when grown in certain areas, had to be renewed after a few years, since it deteriorated. Genetically this is impossible, and a progressive fall in yield or deterioration in seed can only be due to growing under unsuitable conditions or a building up in the soil of infection. A progressive and rapid deterioration in yield of groundnuts when grown on the same land even two years in succession is commonly experienced in South Africa, Southern and Northern Rhodesia and other parts of the continent, and also in Australia. The causes are not fully understood and are not necessarily the same in all areas. In South Africa Sclerotium rolfsii which produces foot root is recognized as being a major factor; while collar rot, produced by Aspergillus niger, is a major cause of low yields in Australia. Both these fungi and other pathogens may be seed-borne. It is also known that Cercospora species can reduce yields, directly due to leaf fall and indirectly by causing a weakening of the pedicels or attachment of the ripe pods to the plant which results in a higher proportion of nuts being left in the ground at harvest.

Under certain conditions a number of the well-known mercurial seed dressings have given good results in reducing losses due to fungus attack, and it is RECOMMENDED that simple trials be carried out at experiment stations to test the effect of their use as recommended by the manufacturers, comparing them with untreated seed and summarizing the percentage of seeds sown which survive as plants at harvest. A poor stand due to failure to germinate or death during the seedling stages is a major cause of low yields, and observations by the Agricultural Expert indicate that this is not uncommon in Italian Somaliland.

In view of experience in other countries, it is RECOMMENDED as a precaution that groundnuts only be grown on land which has not grown this crop for a period of years and that groundnuts should never be grown on the same land two years in succession.

Edible oil and common soap are imported, yet the oil mills (Mogadishu, Villaggio Duca degli Abruzzi, etc.) are not working to capacity. In order to encourage groundnut production, a company in Mogadishu operating an oil mill imported groundnuts last year and issued them as seed to peasant farmers under a form of contract similar to that used in dealing with Italian concessionaires,
granting cash advances against crop, provided cultivations were carried out on the condition of the crop was sufficiently promising. Some success has been obtained in Afgoi, Balad, near Iscia Baidoa and in the dunal zone, but rainfall has been abnormally high this season, and it is extremely doubtful if much of a crop could be obtained in most seasons except where irrigation is possible. The continuation of groundnut-growing under rainfall only is NOT RECOMMENDED except experimentally or on a small scale.

In conclusion, from the information available it would appear that soil and other conditions in the Webbe Shibeli Valley are not very favourable for groundnut production. Conditions in the Juba Valley may be somewhat more favourable, but further investigations are required. Groundnut production without irrigation is highly speculative.

D. SUGAR

The only sugar mill in Italian Somaliland is situated at Villaggio Duca degli Abruzzi and operated by the SAIS. It began operation in 1928 and has a capacity of between 350 and 400 tons of cane every 24 hours; but it is now out of date and badly in need of repair, requiring a great deal of care to keep it in operation. Sugar cane is a crop of major importance to the SAIS at Villaggio Duca degli Abruzzi where a total of approximately 7,000 hectares are available for irrigation. The levelling of the land and digging of the canals, which was done entirely with oxen and hand labour, represents a very heavy capital investment in terms of what this would cost today using machinery. Labour for this type of work is no longer available in Somaliland. The estate is divided into six farms, each of about 1,000 hectares, under an Italian manager with two Italian assistants. Originally 200 pair of work oxen were kept on each farm. There is, in addition, a small experimental farm used for trials before the war and at present being used for multiplication of seed and planting material. Primary, secondary, tertiary and quaternary canals are permanent, and there are 600 kilometres of roads. The ultimate plots are 50 to 80 hectares each and are divided into strips 100 metres wide and up to 800 metres long. There are 70 kilometres of fixed Decauville railway and 20 kilometres of movable railway and four locomotives. Sugar cane occupies the greater part of the cultivated area, and, owing to the rapid decline in yield after the first year, it is normally cut only once before digging up and replanting. The yield averages 500 to 600 quintals per hectare. About 4,000 hectares are under cultivation this year, and the normal rotation is sugar cane alternating with a green manure crop (Phaseolus mungo). Maize used to be grown in the rotation, but this had to be discontinued owing to cane borer. With the enhanced price of cotton and groundnuts, small acreages of these crops are being included in the rotation.

In order to prevent the undesirable accumulation of salts, and alkali, in the soil under continuous irrigation, land is frequently left fallow for a whole season to enable rainfall to leach the surplus salts out of the soil. Varieties from different countries are constantly under trial, and CO 301 from South Africa has proved particularly valuable, as the dense shade cast by it helps keep down weeds; in addition, CO 781 is widely grown. The planting of cane is partially mechanized, and the possibilities of further mechanization are being considered.
Cane is cut in two seasons - August to October and January to April respectively - and the mill operates for a total of about seven months.

The production was of the order of 30,000 quintals during the first years of production and rose to 43,000 quintals in 1934-35 and to 53,000 quintals in 1938-39. Present production is of the order of 50,000 quintals per year; and as sugar consumption in Italian Somaliland has now risen above this level, and over 9,800 quintals of sugar were imported during 1950 (see Bibliography No. 41) and even more was imported this year, consideration is being given to increasing the capacity of the mill to 80,000 quintals per annum. (See Bibliography No. 46).

Before the war, up to 5,800 hectolitres of absolute alcohol were produced per year for use in internal combustion engines, but there is at present no market for this product, and the molasses being produced are stored in open ponds, as the capacity of the storage tanks available has long since been exceeded.

A total of 85 Europeans are employed as directors and as skilled labourers. Prior to the war, many Eritreans were employed as semi-skilled labour, but only 20 are now left who continue to work on a two-year contract with two months leave in Eritrea at the completion of each contractary period. A total of 17,000 labourers are at present employed. This is totally insufficient to keep the factory running. During September it is extremely difficult to obtain labour since all the able-bodied males are busy cultivating their own shambas. The gangs the Mission saw working in the fields cutting cane consisted almost entirely of women and children. During the dry season, any number of able-bodied males come looking for work, but, except during the periods when the cane has to be cut, there is not a great deal for them to do. However, every opportunity is taken at this time to clean out irrigation canals and carry out minor repairs, etc. The seriousness of this labour shortage during the cane-cutting season cannot be over-emphasized. The manager informed us that it is quite impossible to keep the factory running continuously with the small in-put of cane. Stopping and starting the mill results in inefficient extraction of sugar and great wastage of fuel. It should be possible to operate a sugar mill entirely without fuel other than the bagasse (cane after being crushed and the sugar extracted). As it is, a large quantity of firewood has to be burned which has to be cut and carried a considerable distance.

The possibility of the production of cane under contract by autochthonous growers should be fully investigated. This system is widely used in the West Indies, but it would be unwise to assume that this would be successful here as experience has shown that this is only so when the grower is almost entirely dependent upon sugar cane for his livelihood.

The alternative is to mechanize and cut the cane by machinery. However, yields are considerably lower than the world average and, apart from the capital cost of cane-cutting machinery, the operating costs are bound to be very much higher than the cost of cutting by hand. The present daily task is $1/4$ quintals and is usually cut in from $2\frac{1}{2}$ to 3 hours. For completing this task, the labourer is paid 80.1.40 which is made up as follows:
So. 0.80 received as basic salary

So. 0.30 in addition, if at least five contracts are completed per week

So. 0.30 in addition when 20 or more contracts are completed per month.

It is possible for a man to complete two contracts a day. 32 quintals are loaded into one rail-car, and a total of 8 man-tasks are required to load a 32-quintal capacity car. To keep the factory going 3,500 quintals of cane are required per day.

In order to persuade and encourage labour to remain and work consistently for the organization, various inducements are given. Maize and other food grains are brought up at the market price by the company and sold to the employee at half price during the famine period of the year. Each labourer is given \( \frac{1}{2} \) of a hectare of ploughed land. Irrigation water is given free. Only 15 per cent of the permanent staff takes advantage of this offer. Free living quarters are provided for labour, and a number of concrete huts with thatched roofs were erected at company cost; but these are not appreciated, and few are used.

The transport of sugar to Mogadishu by road costs So. 2.30 per quintal.

1. Summary and Recommendations

Yields are low, and, although the continued selection of new varieties for resistance to pests and increased yielding capacity and improvements in cultural methods may be expected to produce improvements, nothing can mitigate the adverse effect on yield of the three months' lack of water for irrigation during the "Jilal" dry season. Costs of production are likely to remain relatively high due to low yields and the great frequency with which plantations have to be renewed.

The quantity and quality of labour available is so inadequate that the mechanization of harvesting has become almost imperative. To what extent available machinery can be adapted for efficient operation under conditions at Villaggio Duca degli Abruzzi is not yet known, but the visit to America by Doctors Bozzi and Bigi for this purpose is commended.

It would be most unwise to assume that mechanized harvesting will be cheaper than present manual methods.

The mill, set up in 1928, is out of date, in need of repair and inefficient. Credit is due to those who have kept it going so long; but if sugar production is to continue, it should be extensively overhauled and modernized.

Sugar is a luxury and, regarded as food, is dietetically most unsatisfactory. Consumption has risen concurrently with increased spending power, and to use the increased demand as an argument for increased production is unwise unless it can be shown first that sugar can be produced
economically without competing for labour and resources that could be more usefully employed in the production of essential food or produce for export. Before deciding upon extensive plant renewals and mechanization, the economics of production in relation to yields obtained hitherto should be carefully considered.

5. PERENNIAL CROPS

1. Banana production

a. Autochthonous production

Bananas of various types are grown in small quantities by riverine tribes, Arabs and others for their own use and for sale on the local markets. Zanzibar (Ladies' fingers), Red banana (both Musa sapientum and Musa sinensis), Elephant's tooth and three other varieties of Musa paradisica are grown along the banks of the Juba. Only two small banana plantations proper were seen by the members of the Mission. These were in the Juba Valley, and one of these was owned by an Arab. It was in a good state of cultivation and was irrigated by means of a pump operated by a small internal combustion engine. The total area of the holding was about 5 hectares of which at least two hectares were under bananas. All cultivation and weeding was done by hand labour. On a number of Arab and autochthonous-irrigated holdings in the Juba Valley there were the remains of pumps, tractors and agricultural implements, but there was no evidence that any autochthonous was able to make a success of running even a small concession along the lines required to produce a crop suitable for export.

b. Production for export

Bananas of the Juba variety (Musa sinensis) are cultivated by the greater number of concessionaires in the Genale area, irrigated from the Webbe Shibeli, and in the Lower Juba Valley. This variety is dwarf, similar in habit to Canary bananas, and was found growing along the banks of the Juba River when that portion of Jubaland was ceded to the Italian Government by the British Government in 1926. After a series of trials, it was found to be superior to other varieties under Italian Somaliland conditions. Being dwarf it is less susceptible to wind damage than taller varieties. So far it has not developed Panama disease, and it is believed to be resistant.

The export of bananas from Italian Somaliland to Italy commenced in 1927, and the first variety exported was the Zanzibar (Ladies' fingers). In 1933, by government decree the export of bananas was regulated and controlled, and the export of any variety other than the Juba, Musa sinensis, was prohibited. (See Bibliography No. 9).

The best type of soil for bananas is the reddish brown alluvial loam. This absorbs water readily, yet holds water in time of drought and is easily worked. The black soil is usually too heavy and too difficult to work, especially in the dry season, whereas the light-coloured sandy soils are too permeable and do not retain water well enough.

\[\text{See Appendix 2.}\]
Before planting, the land is thoroughly levelled, and holes are dug in rows five metres apart. The spacing in the row is usually four metres, but if it is proposed to do cross-cultivation by machinery, a 5 x 5 metre spacing is used. Stools from healthy plants are used, and planting is done preferably during the "Dry" season. Planting may be done during the "Gu" rains, but the first crop of fruit produced is liable to be below standard as the plants have not had sufficient time to develop adequate root system through the dry season. (See Bibliography No. 14).

Irrigation during the early stages of growth depends upon the amount of rain that falls. If there is no rain, it is done every eight or ten days, the interval increased to fifteen days when the stools have taken and to every twenty or twenty-five days when the plants are 80 centimetres high. A cultivation is given after each irrigation primarily in order to kill weeds. This was previously done by hand using a hoe (jembe), but with the high cost of labour most of the cultivation along the rows is by discs pulled by crawler tractor, while weeds in the rows are dealt with by hand. Irrigation is carried out monthly depending on the rain, and is always followed by a cultivation. Many growers believe that by giving a deep cultivation (25 centimetres) at least once every year, preferably more often, it is possible by destroying shallow roots to encourage the plants to develop deep root systems and so enable them to resist the effects of the drought better.

In the time available it was not possible to get much information on this point from other banana growing countries, but deep cultivation was given up many years ago by the United Fruit Company in Jamaica.

In order to obtain a symmetrical and well-developed plant and to ensure progressive and regular production of fruit, it is necessary to prune every three months, removing all infertile cylindrical shoots and leaving only one conical fertile shoot after each pruning. Dry leaves too close to the bunches have to be removed and deformed bunches, or these too close to the ground, are also removed.

This variety of bananas in Italian Somaliland is remarkably free from parasites and pests with the exception of eel-worm. The coconut leaf scale, Aspidiotus destructor (Sig.), is found on the fruit and leaves but does not appear to do any damage.

The eel-worm, identified as Mauginia musae penso (see Bibliography No. 8), causes a rotting of the stools of bananas so that usually by the end of the fourth year a banana plantation has to be renewed. By that time a proportion of the plants have died, have been blown over by the wind or severely weakened. After a plantation has been dug up, the land can be freed from eel-worm or at least the eel-worm population can be reduced to a very low level by deep-ploughing which leaves the earth exposed to the sun during the dry season. There should be at least nine months during which no weeds can grow. This should be followed by one or, at most, two seasons under annual crops such as cotton. However, the renewal of banana plantations in this way adds very considerably to the cost of production. The use of chemical soil disinfectants is very costly, over $100 per acre, and there would be no means of preventing reinfection from irrigation water.
In the Genale area, where the Webbe Shibeli usually runs dry during the three months from January to March, it is impossible to irrigate; production therefore falls off during the early part of the year. The Juba normally continues to flow most of the year, thus the effect of drought is not felt in that area so severely. Unfortunately for the growers, this period of shortage of banana production coincides with the period when bananas would be particularly acceptable in the European market owing to the seasonal shortage of other fruits. On the other hand, the heaviest production in Italian Somaliland is in the latter part of the year which again unfortunately coincides with the period when the fruit in Europe is most plentiful.

This Juba variety of banana has a delicate skin and so, unlike the Gros Michel, has to be protected against damage. The system used hitherto has been to enclose the bunches in open crates stuffed with dry grass and banana leaves. These crates are made in five sizes:

<table>
<thead>
<tr>
<th>No.</th>
<th>Weight</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>10 kg.</td>
<td>optimum</td>
</tr>
<tr>
<td>1</td>
<td>1.4 kg.</td>
<td>size</td>
</tr>
<tr>
<td>2</td>
<td>17 kg.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>21 kg.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>26 kg.</td>
<td></td>
</tr>
</tbody>
</table>

The smaller sizes are the best because these bunches ripen more evenly, and a small banana sells more readily than a large one, presumably because they are sold by weight. The smaller size crates are made from slats of Euphorbia ruspoli (Chiov.), and the two larger sizes from imported poplar. The bananas are protected from damage by ring-shaped pads made locally out of banana leaves and grass. This adds to the cost of bananas in two ways. Firstly, the cost of production of the crate itself and the cost of packing, and secondly, in that the number of bananas which can be stowed into the hold of a ship in this way is only 75 per cent of the weight that can be stowed loose. In an attempt to reduce this additional cost, trial shipments of bananas wrapped in a mattress of paper loosely stuffed with banana leaves are being tried. Recently a ship arrived with 50 per cent of the bananas from the Genale area packed in this way, and the director of the banana monopoly (Azienda Monopolio Banana - AMB) in Rome states that their condition on arrival at Genoa was satisfactory. One of the reasons for the necessity of crates is that ships cannot go alongside at either of the ports of Merca or Kismayu, and that, therefore, the bananas have to be handled a number of times from truck to lighter and from lighter to ship. In a heavy sea this is a difficult and sometimes dangerous task, and if the bananas were not protected in some way or another they would suffer a great deal of damage. This double handling is another factor which contributes to the high cost of production. Conforti gives a detailed description of the production and export of bananas up to 1939. (See Bibliography No. 9).

Today, 300 labourers are employed at the port of Merca at a minimum wage of 50/ per day who work, say, a 22-day month. Some 3,000 quintals are shipped per month.
Four banana boats are at present in continuous operation between Kismayu/Merca and Genoa. The journey takes 11 or 12 days.

The cut stem of each bunch is treated with quick lime before crating, and all crates are subject to a rigid inspection at the port of export. Any in which the stem of the bunch is split or show any sign of disease is rejected.

Two-thirds of the total export quota is provided by the Genale Farmers' Co-operative, and the remaining one-third is allocated to the Juba Co-operative. Shortly before each ship arrives, the Co-operative arranges for its member farmers to transport sufficient quantities of bananas to the port. Each farmer has a quota which varies from 10 to 100 quintals per shipment.

The import of all bananas into Italy is controlled by the AMB. On the recommendation of the AFIS an estimated cost of production is accepted as a base for a contract price. The present contract is valid until June, and the current price agreed is 120 lire per kilogram, f.o.b. Merca and Kismayu. Ocean transport costs approximately 60 lire, unloading at Genoa 5 to 6 lire and transport from Genoa to district distribution centres 6 lire. The price from the AMB to wholesale merchants is 300 lire, and the AMB normally makes 20 to 25 per cent profit which goes to the Italian Treasury. According to the director of the AMB, the cost of running a monopoly is 0.6 per cent of the total value of the crop. The retail merchant pays 380 lire, and the controlled price to the consumer is 500 lire per kilogram. This last price does not include the stalk of the bunch which is, of course, included in all the other prices.

The International price of bananas c.i.f. at a European port is at present approximately 120 lire. In other words, in order to compete on the free European market, bananas will have to be put on board at Mogadishu at approximately 60 lire per kilogram. There is a possibility that a market can be found for a proportion of the surplus over and above the requirements of the AMB for export to Central Europe at this price.

Bananas from Italian Somaliland enjoy a protected market in Italy in that the normal duty of 40 per cent is waived. It is clear, therefore, that the banana producers in Italian Somaliland are at present entirely dependent upon the sheltered market provided by the AMB and that the price they obtain is approximately double what they could expect to obtain on a free market. It is absolutely necessary therefore that every effort be made to reduce the costs of production and transport.

On the credit side, the quality and flavour of the bananas produced in Italian Somaliland are, in the opinion of the director of the AMB, superior to all other bananas. They have the flavour and texture of the Canary banana but are even sweeter and slightly larger. Even when the skin is black the quality of the fruit is still good, provided it is not damaged. It is possible, therefore, that if the quality can be maintained, a market premium might be commanded for bananas from Italian Somaliland. But in order to maintain this quality it is essential that all growers take the utmost care in selection and packing of the fruit.
The biggest single item contributing to the high cost is the necessity for containers, and every effort should be made to dispense with these and substitute for them some less expensive and bulky form of packing.

The development of a new variety of bananas, still retaining the desirable characteristics of flavour and appearance and yet having a tougher skin more resistant to damage during transit, would be a lengthy and expensive process and cannot very well be considered. It is suggested that the Cavendish or Blackstem, from Portuguese East Africa, be tried, and the possibility of increasing yields of the existing variety by the selection of high yielding clones should not be overlooked.

The Italian market could probably take a larger quantity of bananas during the spring when home-grown fruit is in short supply, and up to a total of 500,000 quintals a year there would probably be no opposition from the Italian fruit growers. When the supply of bananas from Italian Somaliland is insufficient, the AMB buys bananas from the Canaries or from French territory.

The present level of importation is from 300,000 to 320,000 quintals per year. Provided the price can be reduced, there is room for expansion even as far as the Italian market is concerned. However, if production increased so as to saturate the Italian market during the early months of the year, there is bound to be an excess during the latter part of the year which will have to be disposed of at a much lower price to countries other than Italy - if markets can be secured. It might even be possible to ship directly to Hamburg (15 days in a fast boat), but this will necessitate picking somewhat greener and a greater care in handling and packing on the part of many growers.

There are no special storage facilities for bananas in Italy, and bananas are distributed to retailers as soon as possible. The margin of profit allowed to the trade is generous but not excessive, and this is justified on the grounds that in some years bananas may have to be sold at a loss during the summer in order to get rid of them before they go bad.

During the latter part of the year when there is a real excess and at other times, because of blemishes or because they are too ripe, not all bananas produced can be shipped, and efforts are being made to find alternative ways of disposing of the crop. At one time a certain number of dried bananas, treated with sulphur dioxide so that they remain a yellow colour instead of becoming dark coloured, were produced for export, but these are not readily marketed.

The banana factory LiPAS at Merca was visited where preserves (marmalade) are being made of bananas alone and in combination with pawpaw and/or flavoured with grapefruit. These preparations are at present being tried on the Italian market.

Dehydration and the production of banana meal is under consideration, but the plant required would involve considerable capital outlay, and mar-
kets for the product would have to be found.

Consideration is being given to raising pigs in the Genale area as a means of disposing of surplus bananas.

2. Citrus fruits

a. Autochthonous production

Sour limes (Citrus aurantiifolia. Christm.), known locally as Somalian lemons, were probably grown in the southern coastal areas and river valleys long before European settlement. Romolo Onor recorded in 1918 that occasional trees were found near villages in Benadir in situations where flooding frequently occurs. (See Bibliography No. 28). The Mission saw old seedless lime trees in many places on the banks of the Juba, especially on Arab-irrigated shambas; and in the absence of precise information, it is safe to assume that this plant was introduced by Arab slave traders.

In the north where fruit, apart from occasional wild fruit in season, is a rare commodity, limes are valuable and sell for as much as ten cents of a somalo, or over one penny each. In Galcaio, where there is plentiful well water, individually-owned lime trees are a profitable source of income.

The diet of the people of the drier areas in particular is largely restricted to milk, meat and such cereals, sugar and tea as the people can afford to buy in exchange for the produce of their livestock; the addition of fresh fruit to their diet is therefore highly desirable.

Limes are easily established from seed, and it is therefore RECOMMENDED that wherever well or spring water exists, every effort should be made to persuade and assist people to plant lime trees. As an incentive, limes should, wherever possible, be included in the rations issued in prisons and hospitals in the north and the interior. The same necessity does not exist in the south and coastal areas where, in any case, limes are not liked by many people.

b. Commercial production

Oranges, lemons, mandarines, citrus and grapefruit are grown on a small scale by most concessionnaires for their own use and for sale locally. A few have well laid out plantations of grapefruit or grapefruit mixed with a proportion of other citrus fruits.

The general appearance of the plantations seen was healthy, but a light leaf colour indicating a lack of nitrogen was fairly common. The number and frequency of irrigations depend on the rainfalls, but the Agricultural Expert was told that this was usually about ten times a year. Plantations are cultivated between irrigations to kill weeds and, in many cases, heavy discs or tines pulled by crawler tractors are used in the belief that deep cultivation is necessary in order to create a heavy mulch which reduces loss of water by evaporation, to kill shallow roots and encourage the development of roots at depth and to open up the soil so as to
ensure the deep penetration of irrigation water.

Varieties of grapefruit seen included Triumph, Foster, Duncan and Pernambuco. These are seeded varieties which sell at a heavy discount in the United Kingdom and should be replaced by Marsh seedless. Trees were seen bearing flowers and fruit in all stages of development. The quality of the fruit and the flavour of those tasted good, but the skin colour was very variable. The Agricultural Expert had the impression that some growers are not aware of the importance of skin colour and appearance in securing a market.

One grower had recently imported a machine for cleaning, wax polishing, grading grapefruit with a view to export. The Agricultural Expert believes this treatment to be essential in developing an export market, particularly as there appears to be some difficulty in finding one. It is therefore RECOMMENDED that this development be encouraged and that the importance of colour, grade and quality be brought to the notice of all the growers.

Out of season fruit, due to adverse climatic conditions and incorrect irrigation practices, has no value, and irrigations and management of the orchards need to be organized so that fruit ripens normally from November onwards.

The cost of materials, wrapping paper, cases, etc., is heavy, and the United Kingdom and Northern European market is now highly competitive, thus the margin to the grower between profit and loss is small.

25,628 kilograms of fresh fruit worth £13,364 were exported in 1950 and this was almost entirely grapefruit which, the Agricultural Expert understands, was sent as trial shipments to Europe. In order to prevent the entry of diseases or pests, all living vegetable matter imported into Italy must be certified clean, disease and pest free. Particular attention is paid to fruits owing to the necessity of protecting the Italian and Sicilian fruit, especially citrus, growers.

**c. Relevant technical aspects of grapefruit production in certain other countries**

Practical experience of growers of citrus fruits under irrigation in California indicates that the less the soil is disturbed in cultural operations, the better the yield. Experiments in the past have shown that cultivation in itself does not conserve moisture, nor does it increase yields by aerating the soil. Cultivation is only useful as a means of controlling weeds, preparing irrigation works or incorporating organic matter into the soil.

Deep cultivation was practiced in California in the past, but experience indicates that if the roots in the surface soil are destroyed, no additional roots are developed at depth, and the total root development and underground feeding system is simply reduced.

Soil structure may gradually improve and the rate of water penetra-

\[ Information provided by the Chamber of Commerce, Mogadishu. \]
tion increase in the absence of repeated cultivations, and it is better to limit cultivation to an absolute minimum to control weeds. Permanent cover crops slashed back from time to time, but without any cultivation, have been tried over a long period of years; but for the most part they have only been successful under very skillful management and increase where competition from moisture is of lesser importance.

Since 1940 oils and chemicals applied by means of various types of spray equipment, combined with permanent irrigation furrows and without resort to any form of cultivation, have been used to control weeds cheaply and efficiently. In order to be sure of eliminating the more resistant weeds, the spray must be applied before weeds are more than 2.5 centimeters high.

In 1947 the cost of weed killing by this means, including furrowing out for irrigation, varied from $17 to $33 per acre and was heavier than by conventional methods of cultivation until after the first two years or so when weeds had been reduced to a low level. Full details are given in California Agricultural Extension Service Circular 150. (See Bibliography No. 22).

An essential preliminary to the use of chemical or oil sprays for weed control in Somaliland would be a study of the species of weeds concerned and their individual reactions to various weed killing materials. The cost of materials is, in any case, heavy, and the economics of their use in comparison with normal cultivation practices would have to be investigated.

In Southern Rhodesia where citrus, both grapefruit and oranges, is grown at about latitude 18° south on a summer rainfall of about 850 mm. and supplemented by irrigation at an altitude of about 1,300 metres above sea level, the government horticulturist reports that cultivation is only necessary for young trees and does not pay in mature orchards. Contrary to popular ideas, it has been proved that frequent cultivations have no effect whatsoever in causing surface feeding plants to develop more roots at depth. Permanent irrigation basins between trees are used and the natural growth of grass and weeds is slashed back, leaving a mulch. To control persistent weeds such as Cynodon dactylon, ploughing is done in the dry season at intervals of from two to six years.

Up to a total of 4.5 kilograms of sulphate of ammonia is given per tree in 2 to 3 applications during the growing period. In one other citrus state where sunnhemp is sown each year and disced in towards the end of the rainy season, the amount of sulphate of ammonia is thereby reduced to 1 kilogram per tree.

In South Africa, where citrus fruit is grown under irrigation in a number of areas, weeds are chiefly controlled by means of the shallowest possible cultivations. The Director of the Sub-Tropical Horticulture Research Station, Nelspruit, Transvaal, reports that results obtained so far indicated that a very shallow hoeing gives significantly higher yield than other practices such as discing. The rainfall here averages approximately 750 mm., falling chiefly in the summer, and is supplemented by ir-
irrigation. The altitude is about 1,000 metres above sea level. A leguminous cover crop doubles the yield as compared with clean cultivation, but the same increase in yield can be obtained by the use of nitrogenous fertilizers whether or not a cover crop is grown.

The information obtained from California, Southern Rhodesia and South Africa may be summarized and applied to conditions in Somaliland as follows:

1. There is no evidence from elsewhere to support the belief current among growers in Italian Somaliland that deep cultivation is beneficial in that, by destroying surface roots, it compels trees to produce a greater development of roots at depth and so resist the effects of drought. The total quantity of feeding roots is merely reduced. Under certain circumstances maximum yields may actually be obtained by the minimum depth and number of cultivations required to control weeds.

ii. The belief that a mulch or rough surface of cultivated dry soil reduces loss of moisture by evaporation and capillary rise is false.

iii. A leguminous cover crop can supply available nitrogen and, suitably ploughed in, can raise yields; but it will, of course, make increased demands on irrigation water. The same effect is likely to be achieved by the application of nitrogenous manure. This may be cheaper, except where ample water is available by gravity, than growing a cover crop.

iv. The use of chemicals or oil is NOT RECOMMENDED until it is known how effective these materials are against the species of weeds - particularly the Cyperus species - which occur.

It is therefore RECOMMENDED that statistical field trials or at least critical experiments by unbiased observers on experimental stations be laid down and yields recorded to measure the effects of different types and frequencies of cultivation, both shallow and deep, and that green manure cropping and chemical fertilizing, especially nitrogen, be applied at various rates.

3. Other perennial crops

i. Coconuts are fairly extensively grown under irrigation by most concessionaires in small quantities, but many became derelict during the war. The re-establishment of coconuts in annual crops in co-operation with autochthonous cultivators appears to be a worthwhile long-term policy especially in the poorer sandier soils.

ii. Tropical fruits. A wide range are grown for local use, but there would be no point in discussing these in detail.
iii. Vines. It is interesting to note that where irrigation is available, fair quality grapes can be grown. Both in the Lower Juba and at Bandera there are well-established vines in production. Grafted and self-rooted varieties are being tried at Iscia Baidoa.

F. FIBRE CROPS OTHER THAN COTTON

The possibility of fibre production at a time when fibres are fetching such high prices is very attractive, but there appears to be little possibility of development in this direction, except by mechanization, owing to labour shortages. Fibre crops which are peasant-produced in India would not be worth considering for autochtonous production.

1. Sisal

Sisal grows even without irrigation in the better rainfall areas, but it could not be expected to yield a good length of fibre under these conditions. With limited irrigation as at La Romana in the Lower Juba it grows rapidly and looks promising but makes heavy demands on labour.

2. Ramie

This does not appear to have been tried.

3. Sunnhemp and Jute

Both grow well but require retting.

4. Manila hemp

A machine is due to arrive shortly from Germany with which it is claimed it is possible to produce a fibre as good as or better than manila hemp from the stems of the Juba banana without the use of water. If this is possible and can be done economically, it would be of great value.

5. Other crops

A wide range of other annual crops have been tried in Italian Somaliland and a number of them can be grown successfully. More work is required, particularly in connection with green manure crops, and this is already being undertaken to a certain extent at the Genale and Alessandria experiment stations. Time did not allow for all the possibilities of minor crops to be investigated and, in any case, as labour is a limiting factor, additional crops could only be developed at the expense of existing ones.

G. FOREST PRODUCTS

1. Introduction

The flora of Italian Somaliland was first investigated in detail by Chiovenda who described it in a series of publications issued between 1911 and
More recently, Senni who spent some five months in Italian Somaliland in 1929 divided the country into five botanical zones:

a. Trans-Juba, from the Juba Valley to the Kenya border.

b. Juba, the river and the depressions parallel to it.

c. Southern Somaliland, from the catchment of the Webbe Shibeli to the Juba.

d. Central Somaliland, from the previous zone to the border of the Nogal.

e. Northern Somaliland, the Nogal Valley to the Gulf of Aden.

Most of Italian Somaliland is covered in low bush, and trees of any size or value are comparatively rare and generally restricted to particular areas of limited extent. A collection of plants was made by the Mission and identified as far as possible by the East African Herbarium. This collection is listed, together with the plant forms and habitats in which the species were found, in Appendix 10.

2. Tannin

a. Mangroves

Chiefly Avicennia marina (Forsk) and Rhizophora mucronata (Lam.) together with other species occur in the coastal belt of the Trans-Juba. The bark contains tannin and is exported chiefly to Zanzibar. At one time it was used as a source of tannin by the factory at Brava but has now been replaced by wattle bark extract from Kenya owing to irregular supplies. Mangrove poles are also used for building huts as they are resistant to termites.

b. Other sources

Other sources of tannin used by the peoples of Somaliland include the bark of Acacia nilotica (Schum.) which occurs in dense thickets in both the Juba and Webbe Shibeli Valleys and the bark of Acacia bussei (Chiov.) which is widely distributed over both British and Italian Somaliland. Production is small and quality low and variable compared with wattle bark extract, so there is little possibility of development.

3. Fibres

The barks of various trees are used by the peoples of Somaliland as sources of fibre for tying poles and roofs or for making ropes, mats, bags, etc. A weak fibre is obtained from the baobab Adansonia digitata (L.), but very strong bags, widely used for the transport of durra, are made from the bark of the golol, Acacia bussei (Chiov.). The shrub Calotropis procera (Wiled.) yields a fine bast fibre, and at one time it was hoped that the floss produced in the fruit pod would be of sufficient value to be worth exporting. The fibre from
weight for grain, usually durra.

The incense is all exported in sambuks or dhows to Aden, and then the Aden merchants pay from 60 to 120 rupees per bohar for Beio. Maldi is marketed in the form of long, light-coloured pieces, the gobbets referred to above, and is frequently cleaned; the Aden price is from 25 to 50 rupees per frasle (approximately 28 lbs.). Beio is in the form of little pieces the size of grain and is worth from 15 to 25 rupees per frasle in Aden. According to the merchants in Bender Cassim, they only obtain from 60 to 120 rupees per bohar for Beio, or 5 to 10 rupees per frasle from the Aden buyers. It would appear, therefore, that with better organization, a higher export price for incense could be obtained.

Italian Somaliland is one of the few countries where incense is produced, and the export of incense worth on an average of over £36,000 makes a considerable contribution to the economy of the very poor, drought-stricken part of the country in which it is produced. The quantity and value exported, including also a small amount of myrrh, a gum from Commiphora species, and perfumed wood is given in the table below.

<table>
<thead>
<tr>
<th>QUANTITY AND VALUE OF EXPORTS</th>
<th>Kilograms</th>
<th>Somalos</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incense, myrrh and perfumed wood</td>
<td>925,715</td>
<td>869,323</td>
</tr>
<tr>
<td>Gum arabic</td>
<td>85,312</td>
<td>37,865</td>
</tr>
<tr>
<td>1949</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incense, myrrh and perfumed wood</td>
<td>882,936</td>
<td>688,969</td>
</tr>
<tr>
<td>Gum arabic</td>
<td>32,331</td>
<td>16,199</td>
</tr>
<tr>
<td>1950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incense, myrrh and perfumed wood</td>
<td>938,165</td>
<td>726,388</td>
</tr>
<tr>
<td>Gum arabic</td>
<td>85,776</td>
<td>47,961</td>
</tr>
</tbody>
</table>

There is little precise information on the actual species which produce incense or on their distribution in Midjurtein. The flowers and, to a lesser extent, the leaves are eaten by camels and goats. According to Fiore and Bettini, herdsmen frequently tear down branches of Beio trees (B. bhan-Dajana Birdw.) in order to feed them to their camels and goats, as the leaves are greedily eaten. The leaves of the Maldi (B. freereana) are relished even more by camels, and the trees are sometimes defoliated by the Midjurtein people who feed the branches to their animals. The young leaves contain some 7 per cent protein, 3 per cent oil, 45 per cent carbohydrates, 25 percent fibre, over 3 per cent calcium oxide and 0.3 per cent phosphorus pentoxide and are therefore fairly nutritious.

The Somali say that after being tapped for incense for a number of years, trees have to be rested.

Little is know to what extent this valuable natural resource is being exploited, or over-exploited, and it seems that the producer obtains a very small return for his labours in proportion to the ultimate value of the produce when sold in Aden.

There is also a small export of gum arabic but little is known of the methods of producing and marketing the gum.

1/ Supplied by the Chamber of Commerce, Mogadishu. One somalo is equal to one East African shilling.
It is therefore RECOMMENDED that an individual be employed full time in the field for a year investigating the existing system of production and marketing of incense, myrrh and gum arabic in the fullest detail. Such an individual should be capable of gaining the confidence of the Somali producers, should speak Arabic and spend some time in Aden. The object of his investigations would be to put forward a working plan for:

a. protecting the trees and bushes from over-exploitation and destruction;

b. improving the quality produced;

c. developing a system of grading, by the producer if possible;

d. developing a system of marketing that will ensure that the producer, who is of necessity poor and ignorant, obtains a fair share of the price eventually realized by the product of his labours;

e. increasing production insofar as this is possible consistent with the previous objectives.

To carry out such a plan and to develop a better system or production and marketing would take a period of years, but the value of the product to this poor drought-stricken country, the Midjurtein, is such that the Agricultural Expert believes it would be well worth while to employ a specialist for this purpose. Perhaps the best way of doing this would be for the individual who carried out the investigation to stay on and put his plans into effect.

II. DESERT LOCUST CONTROL

Locust control in Italian Somaliland is coordinated together with locust control in British Somaliland, Ethiopia, Arabia, the British East African Territories and other countries in this region by the Desert Locust Research and Control Organization in Nairobi.

The actual work of locust control in Italian Somaliland is undertaken by the AFIS through the agency of the district Residents and the Agricultural Department. At present, one member of the Agriculture Department is in personal charge of stores and transport and coordinates the work in the field throughout the country.

Liaison between Nairobi and AFIS is maintained by the Desert Locust Liaison Officer stationed in Mogadishu.

It was recognized at a conference in Nairobi that the cost of desert locust control in Italian Somaliland might be greater than that country could be expected to bear. During the last outbreak, 40 per cent of the funds for control measures in this East African area had to be spent in Italian Somaliland.

A total budget of expenditure per annum was discussed at the Nairobi conference in 1950, and an amount of £1,200,000 was suggested as being necessary to cover ex-
penses at the Nairobi Headquarters, Italian Somaliland, British Somaliland, Ethiopia, Eritrea, Aden, Yemen, Saudi-Arabia, Oman and Kenya.

At present there is a very serious outbreak, and swarms are abundant in both Italian Somaliland and the British Somaliland Protectorate. About £600,000 worth of transport, equipment, bait and agroicide have been provided by the British authorities. At the moment more than 2,000 Somali and 28 Europeans are working in the field. The recent heavy rains have added to the difficulties of transport which in this country are already considerable.

The effect of locusts on crops in a country which is subject to famine in any case is obviously very serious. The desert locust must also cause a great deal of damage to the natural pastures, but absolutely no estimate of the extent of such damage is possible.

I. ADMINISTRATION OF AGRICULTURAL, LIVESTOCK, NATURAL PASTURE AND FORESTRY PROGRAMMES AND THE TRAINING OF STAFF

The economic development of Somaliland as a Trust Territory and subsequently as an independent country must depend, to a large measure, on its agricultural and livestock production. The extent to which this production can be built up will depend, in turn, upon the effective effort that the Administering Authority devotes to the development of these fields.

The autochtonous peoples, as well as the European concessionaires, depend upon the government for leadership and guidance. To carry this responsibility the present staff of the Bureau of Agriculture and Livestock Production must be expanded.

The primary expansion should be in field men. It is suggested that provision be made for at least one crop-livestock extension officer in each Commissariat, with perhaps some additional men attached to the Residentes in areas of intensive agricultural production. To these should be added the number of research men needed to carry out such research work as it is feasible to initiate.

At the headquarters in Mogadishu it is suggested that one additional deputy director be added so that there will be one responsible for crop husbandry and one for livestock husbandry (including natural pasture management).

It is also suggested that the present Veterinary Service, including the veterinary inspector, the field veterinarians and also the Merca Institute, be transferred from the Bureau of Public Health and Education to the Bureau of Agriculture and Livestock Production. This transfer is proposed because the fields of livestock improvement and production, natural pasture management, and livestock disease control and prevention are so inter-related that they need close coordination by a single director.1/

1) Agricultural and Livestock extension work

Heavy responsibilities in the administration and judicial field leave Residents little time for a study of purely agricultural and livestock problems. Technically-qualified staff of the Agricultural/Zootechanical Department are of necessity few, and transport costs and difficulties over great

1/ Preceding paragraph drafted by Pastoral Expert.
distances make it impossible for them either to investigate problems or to spread information amongst more than a fraction of the population.

Subject to financial limitations it is RECOMMENDED that one Agricultural-Livestock Extension Officer be appointed for each Commissariat, with provision of one additional officer for relieving duty. The Agriculture Expert understands that additional young men trained in Florence are expected to arrive soon for posting to the Midjurtein and the Mudugb. The Extension Officer's first duty should be to get to know the people and his Commissariat; he and his subordinate Somali staff should also be organized and supplied in such a way as to be able to report locust invasions and undertake control operations at short notice.

In course of time, one autochtonous agricultural-livestock extension assistant should be attached to each Resident and work under the technical direction of the Extension Officer at the Commissariat. They will have to be mature men, and much will depend on their tact and cordial relations with the chiefs and the people. Their recruitment and training should be spread over a period - say five years.

2. Training of Junior Staff

These men will of necessity be illiterate, and the course of training will therefore have to be designed accordingly. The situation of the Centre will have to be such so that livestock of all kinds can be pastured in the vicinity at least for a considerable portion of the year, and so that dry land agriculture will be possible. The Training Centre should be near enough to a school so that a teacher could be sent out (by car if need be) to give evening classes. It is essential that the residential and instruction centre, farm and cow byres be in one place. Irrigation would be desirable but not essential, as the areas where irrigation is possible, taking the country as a whole, are strictly limited. Not more than 15 assistants should be trained at a time, and the course should last ten months. The most suitable individual to place in charge would be a member of the Agricultural/Zootechnical Department of long standing in Somaliland. He should visit training centres in Southern Rhodesia and the Sudan and possibly other African countries before taking up his new duties. A young man, however well-qualified, without previous knowledge and experience of Somaliland would not be suitable.

The three-year course proposed by the Chief of Education Department for training the assistants is not suitable. A course designed to fit autochtones for posts of responsibility requiring professional training needs careful consideration, and the plan for the proposed College of Professional Agriculture at Merca-Genale is not suitable for this purpose, because:

a. in the location proposed crop and animal husbandry cannot be combined.

b. the objects are too broad and not sufficiently defined,
Professional training for posts of higher responsibility is discussed in a later paragraph.

The course of training for autochthonous assistants destined to be posted to work with each Resident should be essentially practical. At this stage it would not be right to lay down a programme in detail, but by using audio-visual methods it should be possible to impart a basic knowledge of elementary science and natural history, including morphology, physiology and diseases of crops; anatomy and descriptions of the more important insect pests and parasites; the gross anatomy, physiology and common diseases of parasites of domestic animals; simple animal biology; soil structure and chemistry; crop husbandry and principles of irrigation; principles of range and pasture management; animal husbandry, including the training and use of cattle for draft purposes; animal breeding and a practical training in the repair and improvisation of simple farm equipment.

After a period of say five years, it should be possible to draw upon the output of boys who have received elementary education in the towns and villages of the interior and who have a rural background. In the meantime, as is fully agreed by the Education Expert, it is essential to ensure that elementary or primary education in the rural areas does in fact have a rural bias. It would be tragic indeed if the results of education would be to discourage young Somali with more than average intelligence to disdain agriculture or animal husbandry. This has unfortunately occurred in many of the less-developed countries, but it has been avoided to a considerable extent in others. The method of agricultural extension and community improvement which has been used with great success in Southern Rhodesia during the past 25 years is worthy of study as it has obvious possibilities in Somaliland.

The essence of the system is that young men who have had a primary education go to an institute where secondary education along accepted lines is given in conjunction with practical training in crop and animal husbandry, forestry, soil conservation and utilization, building, joinery and metal work. In Southern Rhodesia there are today two parent institutes in existence, at Mashonaland and Matabeleland, which were built by students as part of their training. In addition, a number of daughter institutes have been built or are in process of being constructed by students under European direction. On satisfactory completion of their course of training, which takes altogether some seven years, students pass out as demonstrators. They are then posted out in the native areas among their own tribe but not in their home areas. During their last year, they specialize either in animal husbandry, crop husbandry, community demonstration (building, joinery, elementary sanitation, etc.), forestry or soil conservation. The first duty of a community demonstrator is to assist in building an improved type of house made as far as possible out of local materials. He has to persuade local people to come and learn to make bricks, burn bricks, build, saw up timber, make doors and windows, furniture, etc. No payment is given, but food is provided. The government provides the necessary materials such as roofing and timber where necessary, cement, nails, etc.

1/ See also Education Expert's Report. Part II. RECOMMENDATIONS, D. Vocational Schools.
2/ These assistants are included by the Education Expert in his report. Part II. RECOMMENDATIONS, D. Vocational Schools.

206
An agricultural demonstrator is provided with a plough and simple implements, and he has to persuade local people to make yokes, bring along their cattle and learn how to plough and cultivate properly. He has a small farm of his own which he has to manure and plant in regular fashion on a proper system of crop rotation; with the assistance of the soil conservation demonstrator he puts in the necessary soil conservation measures.

The livestock demonstrator is supplied with simple drugs and is expected to treat animals suffering from minor complaints and to show the people how to take better care of their livestock. He is provided with a bloodless castrator and is expected to assist in the carrying out of a breeding policy approved by the Department of Native Agriculture.

A forestry demonstrator, working in conjunction with the minor chiefs and headmen, arranges for the protection and proper utilization of natural woodland and, where necessary, sows nurseries and makes small plantations of timber trees.

The soil conservation demonstrator has a level and instruments to enable him to peg contours through cultivated land. He has to persuade farmers to adopt methods of cultivation and construct the necessary earthworks such as will conserve the soil.

In each district these men are under the technical direction of the European Land Development Officer who is a member of the staff of the Native Commissioner who administers the district. The Land Development Officer who corresponds to the suggested Agricultural Livestock Officer proposed for Italian Somaliland receives technical instruction and direction from headquarters officers of the Department of Native Agriculture.

3. Training of Senior Staff

The training of autochtones for responsible posts as research or extension officers in the Department of Agriculture and Livestock Production presents a serious problem; in the rural areas from which these individuals will have to come, it is only now that it has been possible to make a start with elementary education. It will, therefore, be some years before there will be boys available who have completed their primary education and are ready for the sound basis of secondary education which the Education Expert points out is an essential preliminary to the university or technical college training required for the professional man. The Education Expert notes that it may well be 15 years before this level is reached and that bursaries will be required so that this training may be obtained outside Italian Somaliland. In the meantime, every effort should be made to provide a sound elementary and later secondary education at one or more centres in the interior which are designed primarily for boys destined for agricultural and related posts.

It is RECOMMENDED THAT a young man from Italy with a university degree in agriculture and animal husbandry be recruited for the purpose of organizing this agricultural education, and that after a preliminary period in Italian Somaliland provision be made for him to visit other countries in Africa such as Southern Rhodesia and the Sudan to study methods already successfully developed.
4. Agricultural and Livestock Research

Modern techniques of biometrics and statistical analysis are the essential tools required in carrying out research and investigations in the field of agronomy, crop and livestock breeding and pathology, entomology and soil studies. An effective programme of crop and livestock extension work can only be based on sound experimentation carried out by men able to use these methods. Much very valuable work has been done in the past, but there is at present no one working in the field in Italian Somaliland who has had the training and experience required to design and carry out statistical field trials with crops or livestock, biometric investigations of insects or pathogens. It is therefore recommended that a statistician fully trained and experienced in these internationally accepted techniques be appointed to the Agricultural and Livestock Department to take charge of and be fully responsible for the accuracy and reliability of all experimental and investigational work. This would have to be a relatively long term appointment, and it would be necessary for the Italian government to apply for assistance in enabling a suitable individual to complete his training overseas.

The two experimental stations at Genale on the Webbe Shibeli and at Alessandria on the Juba have great possibilities, and it is essential to go ahead with the project for an experimental station somewhere in the Iscia Baidoa area in a situation representative of that area.

Whereas it is necessary for a research man to keep in close contact with the area and activities his work has to serve, he should not be burdened with extension work. For this reason it is recommended that a fully qualified professional agronomist be placed in charge of experimental work at each of these three stations, and that existing experienced field staff be entrusted with the extension work.

J. SUMMARY OF RECOMMENDATIONS

1. Production of Food Crops

Somaliland has a low and uncertain rainfall, and since crop production is virtually impossible in all but a fraction of the country and somewhat precarious there, measures to increase food supplies should have first priority so as to reduce the danger of famine.

2. Land Utility Survey

A reconnaissance soil, vegetation and land utility survey for selected areas is recommended so that the extent to which additional agricultural land is available may be known as an essential preliminary to the development of additional water supplies and the opening up of new areas of settlement and food production.

3. Control of Flood Irrigation

The organization of cooperatives for the control of flood irrigation and better utilization of desceks is recommended as a means of increasing food production.
4. Control of Stalk Borer

The staple food grain of the Somali people is sorghum (durra) and, to a lesser extent, maize. Both are attacked by the larvae of various lepidoptera known collectively as stalk borers which reduce to varying degrees the yield from every crop. The damage done by stalk borers has been compared to that done by locusts, and it is RECOMMENDED that the entomological work already done be supplemented by investigations into the ecology of borers, to be followed by a plant breeder and entomologist working in close cooperation towards the development of resistant varieties. This is a major long-term project. Since results achieved in this field would be of outstanding importance to Somaliland and throughout the tropics, it is suggested that aid for this work be requested from F.A.O. under the technical assistance programme.

In the meantime every effort should be made to encourage the good practice of destroying all sorghum residues by fire shortly before planting.

5. Improvement of Maize Yields

It is RECOMMENDED that varieties of yellow maize from South Africa and Kenya be introduced for trial and that selection within local varieties of maize be undertaken in the Lower Juba with a view to increasing yields.

6. Improvement of Grain Storage

Grain is stored from one season to the next and frequently for many years in pit silos in all grain producing areas. As a first line measure of defense against famine, it is RECOMMENDED that a grain storage specialist be appointed to study these methods of storage and in due course to carry into effect a programme of improvement. The decision on the part of the AFIS to replace existing bag stores with modern silo storage and the release of stored grain to the market in times of scarcity to control price fluctuations is commended.

7. Cotton Production

A crop that can be grown by the peasant cultivator and sold for cash to enable him to raise his standard of life above a mere subsistence level is badly needed. As cotton has shown some promise in this respect, at the request of H.E. Ambassador G. Fornari, particular attention was paid to this crop.

a. Replacement of existing variety in dry land areas

Only Egyptian cotton has so far been grown commercially, and although it has done quite well without irrigation during the past two seasons, this is only because of exceptional rainfall. Its replacement in dry land areas by a more drought-resistant variety is RECOMMENDED.

b. Control of pests and diseases of cotton

The appointment of an entomologist to continue the valuable work already done in the field with cotton pests in order to develop methods of control is RECOMMENDED, as cotton is now grown extensively in areas it was never grown in before as an annual crop.
It is RECOMMENDED that a statistical study by a cotton expert be made of all available yield, meteorological and relative data with a view to a better understanding of the relationship of time of planting to attack by pests and diseases.

Since cotton in Italian Somaliland is attacked by a variety of pests, especially the pink bollworm Platýidra yossipiella, the establishment of an effective close season, as a measure of control, for the growing of cotton in accordance with the interests of the country as a whole is RECOMMENDED as an urgent necessity.

c. Contact with Empire Cotton Growing Corporation, Namulongo

The contact already made with the director of this experiment station at Namulongo in Uganda is commended and it is RECOMMENDED that the offer of assistance in carrying out the variety trials and other investigations necessary in different areas of Italian Somaliland made by him should be followed up by personal visits.

d. Development of a system of grading and marketing

A system of grading and marketing needs to be developed, and it is RECOMMENDED that an experienced member of the Department of Agriculture be charged with developing such a system and visit Northern Nigeria to study the methods successfully developed there.

e. Financing investigations from a cotton cess

In accordance with procedures in other countries, it is suggested that these investigations and developments be financed from a percentage cess on the value of cotton exported.

8. Oil Seeds

a. Sesame

Sesame is well adapted to local conditions and widely grown but frequently seriously attacked by the larva of the insect Antigastra catalaunalis (Dup) and further studies on the biology of this pest are RECOMMENDED. It is also RECOMMENDED that the non-shattering strain developed in Venezuela for combine harvesting be obtained for trial.

b. Groundnuts

Yields under irrigation are low compared with other countries and many soils, especially in the Webbe Shibeli Valley, owing to high calcium content and alkalinity, are not very suitable. As a measure of disease control a close season and the regulation of planting dates is RECOMMENDED, and groundnuts should only be sown in rotation with other crops. Seed treatment with mercurial fungicides should be tried. Before purchasing equipment for mechanized production, modification made to suit African conditions should be studied by visits to other African territories. The encouragement of groundnut growing under rainfall is not advised and should
only be undertaken experimentally.

c. Cotton

An increase in cotton production would be welcomed by the expellers in Mogadishu and at Villaggio Duca degli Abruzzi where there are also facilities for soap making, since sesame and ground nuts do not supply sufficient oil seeds to meet requirements.

9. Sugar

Low yields, high costs and a severe labour shortage do not promise well for this industry, unless greatly improved varieties and methods of growing can be evolved. The mechanization of cultivation is almost imperative, but the cost may be prohibitive. The mill is out of date and badly in need of repair. Sugar is a luxury, and the economics of production need careful scrutiny before an extensive programme of capital investment or an expansion in production is undertaken.

10. Bananas

This crop enjoys a favourable sheltered market in Italy, is a profitable source of income to both Italian Somaliland and Italy and is an export of importance to the country. There is room for a limited expansion of exports to Italy, but costs of production are high and at present it would not pay to produce and ship bananas from Italian Somaliland at world prices. A reduction in the cost of production is essential, and the cost and bulk of containers must be reduced. Deep cultivation is no longer practised in Jamaica, and its value in Italian Somaliland needs investigation. Additional varieties should be tried and high yielding clones selected and multiplied.

11. Citrus

The planting of limes should be encouraged in the north of the country where well water is available as a means of improving the diet where fresh fruit and vegetables are non-existent for the greater part of the year. Existing seeded varieties of grapefruit should be replaced by seedless varieties and more care taken in timing and quantity of irrigation if it is desired to export grapefruit to the Northern European markets.

There is no evidence from other citrus producing countries that deep cultivation as practised in Italian Somaliland does anything but reduce the total amount of roots, and is therefore NOT RECOMMENDED.

12. Fibre Crops Other Than Cotton

There is a certain amount of interest in sisal owing to the high price being obtained for this produce in East Africa. The labour requirements of this crop are, however, high and it is difficult to see how there could be any considerable development here. It is claimed that a good quality Manilla hemp can be produced from the stems of the Juba bananas without the use of water by using a German machine. If the manufacture of this fibre proves to be economic, it would be of great value to the country.
13. **Incense**

The production of incense, although small, represents a large proportion of the world total and is of great importance to the poor drought-stricken part of Somaliland where it is collected. It is **RECOMMENDED** that the existing system of production and marketing of incense, myrrh and gum arabic be examined in detail with a view to protecting the trees from over-exploitation and destruction, developing a system of growing and marketing which will ensure the producer a better share of the price eventually realized and increasing production as far as is consistent with the previous objectives. It is suggested that AFIS might apply to the Food and Agriculture Organization of the United Nations for technical assistance in carrying out this project.

14. **Desert Locust Control**

The control of an outbreak of desert locusts such as is now being experienced undoubtedly places a very great strain on the material and manpower resources of the AFIS. The coordinated effort with neighbouring territories being made through the agency of the Desert Locust Control Organization in Nairobi should be continued and this project is commended to FAO for support and assistance.
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213


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APPENDIX I.

**Meteorological Data**

Information received from Air Ministry, London for period 1943-49 up to 1943

Information supplied by the East African Meteorological Service compiled from records available in Italian Somaliland

<table>
<thead>
<tr>
<th>CLIMATE</th>
<th>RAINFALL DATA</th>
</tr>
</thead>
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<tr>
<td>Meteorological Stations by Zones</td>
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</tr>
<tr>
<td>Lat.</td>
<td>Distance from coast (km.)</td>
</tr>
<tr>
<td>MUDUGH</td>
<td></td>
</tr>
<tr>
<td>Galcaio</td>
<td>6°46</td>
</tr>
<tr>
<td>Obbia</td>
<td>5°21</td>
</tr>
<tr>
<td>CENTRAL AREA BETWEEN TWO RIVERS</td>
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</tr>
<tr>
<td>Baidoa</td>
<td>3°54</td>
</tr>
<tr>
<td>Bur Acaba</td>
<td>2°18</td>
</tr>
<tr>
<td>Oddur</td>
<td>1°08</td>
</tr>
<tr>
<td>TRANS-JUBA</td>
<td></td>
</tr>
<tr>
<td>Afmadu</td>
<td>0°31</td>
</tr>
<tr>
<td>UPPER JUBA AND WEBBE SHIBELI</td>
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</tr>
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<td>Lugh</td>
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</tr>
<tr>
<td>Belet Uen</td>
<td>4°04</td>
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<tr>
<td>Bulo Burti</td>
<td>3°51</td>
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<tr>
<td>LOWER WEBBE SHIBELI</td>
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<td>Balad</td>
<td>2°22</td>
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<td>Afgoi</td>
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<td>Bardera</td>
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<td>Kismayu</td>
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### APPENDIX 2

#### Export of Agricultural Products From Italian Somaliland

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<tr>
<th>NAME</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Weight (Quintals)</td>
<td>Value in Somalos</td>
<td>Weight (Quintals)</td>
</tr>
<tr>
<td>Tinned Tunny</td>
<td>204</td>
<td>137,983</td>
<td>737</td>
</tr>
<tr>
<td>Sugar</td>
<td>3,123</td>
<td>331,112</td>
<td>1,661</td>
</tr>
<tr>
<td>Maize</td>
<td>6,651</td>
<td>208,599</td>
<td>5,209</td>
</tr>
<tr>
<td>Durra</td>
<td>7,289</td>
<td>178,382</td>
<td>50,813</td>
</tr>
<tr>
<td>Beans (Cowpeas)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bananas</td>
<td>14,114</td>
<td>212,646</td>
<td>50,813</td>
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<tr>
<td>Dried Bananas</td>
<td>665</td>
<td>57,381</td>
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<tr>
<td>Fresh fruit</td>
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<tr>
<td>Sesame</td>
<td>9,464</td>
<td>1,008,184</td>
<td>19,053</td>
</tr>
<tr>
<td>Groundnuts</td>
<td>11,626</td>
<td>1,051,846</td>
<td>7,144</td>
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<tr>
<td>Sesame oil</td>
<td>3,237</td>
<td>594,383</td>
<td>125</td>
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<tr>
<td>Groundnut oil</td>
<td>16</td>
<td>4,987</td>
<td>6</td>
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<tr>
<td>Cotton lint</td>
<td>1,650</td>
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<tr>
<td>Firewood</td>
<td>7,068</td>
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<tr>
<td>Charcoal</td>
<td>2,750</td>
<td>26,995</td>
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</table>
Cotton Production in Uganda

Cotton production in Uganda has in the past 30 years grown from small beginnings to an industry of major economic importance to the country, yielding in export tax alone some £5 million per annum. Although climate, soil and people are very different from Italian Somaliland, much time and trouble can be saved by a study of the experience gained in cotton production by small peasant growers in Uganda, particularly as the headquarters research station of the Empire Cotton Growing Corporation is situated here.

Great efforts are at present being made to improve yield, efficiency and, in particular, quality by improvement in marketing and ginning. Existing legislation is being revised and a Bill was drafted on 1 November 1951 (See Bibliography No. 45) to provide for the zoning of cotton growing areas, the distribution of seed, the buying, transport and storage of raw cotton, the issue of ginning licenses and the establishment of a close season.

The following brief account draws attention to some of the problems which have arisen and the methods, many of which are relevant to cotton production in Italian Somaliland, being adopted to solve them.

a. Growing

Cotton is widely grown in Uganda in areas where the rainfall is 1,000 mm. per annum and over and at an altitude for the most part of more than 1,000 metres above sea level. This, together with the relatively high humidity and degree of overcast skies, results in a comparatively low mean temperature, approximately 22°C, during the growing season. Consequently, varieties of cotton usually take 35 to 40 days longer to reach maturity in Uganda than in most other tropical countries.

Uganda cotton is an American long-staple type with a good lustre, intermediate between West African, Congo and Nyasaland cottons on the one hand and Sudan and Egyptian cotton on the other. The cotton produced in the areas near Lake Nyanza where the rainfall is more reliable has a mean staple length of 1 3/16", whereas the mean length from the remaining areas is 1 1/8". BP52 is the name of the seed used in Buganda Province, while SK7 is used in the West Nile and the Northern Province, and NL7 is used in Busoga.

Blackarm, angular leaf spot or bacterial blight, Xanthomonas malvaceavum (Sm.), previously known as Bacterium malvacearum, is the most serious disease of cotton in Uganda. Good results were obtained by the chemical treatment of seed, but as all the active substances were dangerous mercury compounds, this work was suspended after 1934 in favour of breeding resistant varieties. (See Bibliography No. 21), and the varieties at present grown have a measure of resistance. The examination of climatic records indicates that there may be a carry-over of blackarm in cotton trash and that therefore seed treatment may be ineffective in certain seasons.

The rainfall is bimodal, i.e., two seasons a year, generally March to May or June and September to November. To the north of the country the June to August gap in the rain tends to close and the December-February dry season becomes more
pronounced, whereas to the south, the reverse is the case and the June to August dry season is more pronounced.

In the cotton-growing areas of Buganda, the early rains are the most important and generally the most reliable, so food crops have to be planted earliest in the year. They are of paramount importance to the cultivator because his life depends upon them, whereas cotton, important though it is, must be given secondary consideration. Consequently poor early rains, necessitating replanting or late planting, or a season when weeds are worse than normal, and in some cases even the harvesting of early grain crops all tend to delay the planting of cotton which may continue until August.

Manning (See Bibliography No. 24), studying the mean yields of date of planting trials at a number of stations over a period of 15 years, concluded that the optimum planting date lay between the 15th and 25th of June. This conclusion was borne out by a study of the relationship between mean planting dates in the various provinces and the total cotton production of each over a period of years and clearly showed that the production was generally lowest in years when planting was late and highest when it was earliest, i.e., before late June.

It would appear, therefore, to be good practice to plant cotton during the latter part of the early rains while conditions are good for establishment, rather than in July or August when rainfall is low and uncertain and establishment may not be good. An examination of the soil nitrate content indicates high levels in July and August with minima in June and September but rising again later in the year.

Cotton buds and flowers are rich in nitrogen, and as most responses to fertilizer have been associated with a high soil nitrate content at flowering time, it is reasonable to suppose that this is the reason why April and early May plantings do not yield as well on the average as June plantings.

Although the annual rainfall is relatively high, it is spread over nine months of the year, and considerably less than 500 mm. may fall in one or other of the two rainy seasons. Therefore the reliability rather than the quantity of rainfall has determined the areas where cotton is grown extensively.

From a study of existing records and by means of a mathematical device, Manning (See Bibliography No. 25) has been able to produce maps showing the limits within which rainfall may be confidently expected to fall nine years out of ten.

It is significant that it is in those areas which have the lowest confidence limits and not within the areas of lower total rainfall that cotton cultivation is least extensive.

The areas most suitable for cotton in Uganda and the optimal planting periods have been arrived at as a result of practical experience without knowing the reasons why. Only after a study of records over a period of years has it been possible to arrive at an understanding of the interaction of the many factors involved. A considerable body of information on yields, planting dates, incidence of insect attack and disease, rainfall and other meteorological data exists concerning cotton in Italian Somaliland in various publications and records, especially at SATI at Villaggio Duca degli Abruzzi and probably at La Societa Romana at Margherita. It is RECOMMENDED that a numerical and, as far as possible, statistical
study of these be made by a cotton specialist along the above lines, bearing in
mind that for economic reasons the production of cotton in the future is likely to
be by peasant cultivators on their own account rather than by plantation methods.

b. Investigations, seed improvement, multiplication and distribution

The headquarters of the Empire Cotton Growing Corporation was moved two years
ago from Trinidad to a new site at Namulonge in Uganda. The capital for this new
station was provided by the Colonial Development and Welfare Fund, the British
Cotton Industry War Memorial Trust, the Raw Cotton Commission and by the E.C.G.C.,
while the running costs are met by the Colonial Development and Welfare Fund and in
part by the governments of British African cotton growing countries who benefit
from the investigations carried out by this body.

Research and investigation of a fundamental nature of widespread value and in­
terest is undertaken in the fields of plant breeding, genetics, cytology, physiology,
plant pathology, entomology, climatology, biometry, soil physics and chemistry and
the agronomy of cotton as a part of peasant agriculture in the tropics.

Cotton research in Africa is dominated by the fact that the crop is a com­
paratively new introduction. During the forty years or so that have elapsed since
Upland cottons were brought to the rainfed tracts of Africa, a continuous process
of adjustment of the crop to the new environment has gone on and, in consequence,
cotton is now firmly established as a major cash crop. Further progress will be in­
creasingly dependent on carefully planned experimentation and research. In plant
breeding, great advances have been made by the selection of locally acclimatized
forms, in particular, types resistant to the jassid pest and partially resistant to
bacterial blight. Recent genetic research has, however, indicated scope for much
greater improvement in crop performance. The range of genetic material may be
widened by hybridization with such stocks as the acclimatized Uplands of India and
modern American varieties with a high potential crop production.

The first stage of the long-term breeding problem may be defined as the trans­
ference of really high bacterial blight resistance to all the more important East
African stocks.

In the entomological field, the absence of diapause in pink bollworm renders
this pest susceptible to control by close season measures in otherwise extremely
vulnerable territories.

Insecticidal work is being undertaken in cooperation with the Uganda Department
of Agriculture, the East African Agriculture and Forestry Research Organization and
the Colonial Insecticides Committee, and it is hoped that guiding principles in the
use of insecticides on rainfed peasant crops in tropical Africa will be established
and that much time and trouble will be saved in other countries.

The Namulonge (entomological) programme will have its applications in all
African cotton-growing territories. (See Bibliography No. 18).

Experimental work with cotton and other crops is carried on by the Uganda
Government at Kawanda, Sereve and other smaller stations in close collaboration
with the E.C.G.C. to test varieties and adapt and develop techniques and systems
under local conditions.
Trials in numerous administrative districts in extension work is carried out by provincial and district agricultural officers (24 in 1948), African assistant agricultural officers and numerous technical assistants.

A new variety, proved to be superior to the existing commercial seed over one of the four major cotton growing areas as a result of numerous trials over a period of years, is multiplied in strict isolation by an experimental station on a seed farm and then distributed to a selected area where control can be exercised to see that no other cotton is grown. From this area sufficient seed is produced to enable the seed supply of whole districts to be replaced. But as we have seen, this is only effective if ginneries are cooperative and efficiently run. (See Section III. MARKETING AND GINNING).

C. Marketing and Ginning

The greater part of the cotton crop is sold by the grower directly to the ginner, only a small fraction being market by cooperative societies. The opening date of the buying season is fixed each year by government regulation and is usually some time in January. The first six to eight weeks, depending on the nature of the season, are known as the "good raw period" during which only safi or "good raw cotton" may be bought. After this period, damage by stainers and insects and by rain is inevitably greater and only fifi or second grade cotton is bought and for which a lower price is paid.

Ginners send out touts (Chaluzi) to organise growers to be ready with their cotton to be picked up by "Kyalo" transport and be brought back to the ginnery store to sell their cotton. According to the 1948 Commission Report (See Bibliography No. 43), this "Kyalo" or free transport system is badly organized, and ginners send lorries far beyond their economic radius. In order to reduce waste of transport and to control the activities of touts, the Commission recommended a system of zone licenses for lorries and licenses for touts. Relatively few middlemen exist, and they are not encouraged by the high ginning charges the ginners are permitted to demand.

It is illegal to buy in advance or offer incentives, as experience in India has shown that this can aggravate the very serious problem of peasant indebtedness. In practice, a certain amount of goods are probably supplied in advance of the cotton harvest, but the Agricultural Expert was told that this is not in any way a cause for anxiety.

There are 193 ginnery sites, of which about 150 are ginneries actually in operation. Cotton is bought at each of these 150 ginneries, and there are in addition some 500 stores owned by the ginneries in the cotton growing areas at which cotton is also bought. All buyers have to be licensed, and the centres where cotton may be bought are gazetted as markets. Many stores are constructed from temporary materials and are unsatisfactory from the public health point of view, and in many of them the cotton deteriorates due to damp, dirt and rats. A better organised and more rational siting of stores and buying centres is badly needed and the "saving effected by carrying three tons of cotton from store to ginnery, instead of 1.5 tons of cotton and 1.5 tons of growers as happens with 'Kyalo' transport, would provide an off-setting factor against the cost of operating new stores.
"We can see no advantage... having numerous buyers concentrated at a few centres and recommend that buyers should be spread over a large number of centres. Not less than two buyers per centre and not more than four would seem to be the ideal to be aimed at." (see Bibliography No. 43, p. 12). Nearly all ginneries and most of the stores are owned by Indians.

There is no grading of seed cotton as such and no incentive to the grower except insofar as a higher price is paid for safi bought before the close of this period. As an incentive to both better buying and better ginning by ginners, premiums are paid on bales above standard quality and likewise penalties levied on bales below standard.

African agricultural instructors inspect markets and stores frequently during the buying season, and it is their duty to see that the prescribed standards of quality are maintained and to report below grade buying, falsification of weights or other malpractices to the agricultural officer in charge of the district.

A guaranteed fixed price to the grower is established before the planting season, this price being fixed by agreement between the Lint Marketing Board and the Uganda government. A Price Equalization Fund enables the fluctuation in the selling price of cotton lint to be evened out and a pre-arranged price to be paid to the ginner for lint of standard quality.

The Price Equalization Fund at present stands at about £23 million sterling and was built up during the immediate post-war period when the price to the grower was kept down in order to reduce the inflationary effect of high prices and provide a reserve for further periods of low price. Today the price to the grower is so calculated that if the f.o.r. price is 34d, no surplus will be accumulated. If the prices were to drop and 50 cents per pound had to be paid out to the growers this would cost the fund £10 million.

The Lint Marketing Board originates from an independent group of 25 cotton exporters and is regulated under a government ordinance (See Bibliography No. 42). The board panel now consists of 75 produce exporters of financial standing, and the board consists of:

1. chairman; the financial secretary
2. official member; the Director of Agriculture
3. official members appointed from the Legislative Council
4. official members from the Uganda Cotton Association
5. official members from among exporters
6. African members representing the growers
7. 1 member ex officio, the Registrar of Cooperative Societies.

Members are appointed by the governor and serve for two years.

From 1943 to 1948 all cotton was exported under bulk price agreements, and the position for the 1951 crop was:

to England and India under bulk agreements...... 240,000 bales
to free market ........................................ 96,000 bales

**TOTAL** 336,000 bales
During this period there has been little variation in the acreage planted, and the range of exports from 110,000 to 376,000 bales of 400 lbs. each during the past eight years was due almost entirely to differences in rainfall and planting date and in the incidence of pests and diseases. In a country with a marginal rainfall and a known heavy incidence of pests such as Italian Somaliland, even greater variations in yields may be expected.

The price to growers is related to the price to the ginners on the following basis, 100 cents being equivalent to one shilling:

<table>
<thead>
<tr>
<th>100 lbs. seed cotton yield:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>30.5 lbs. lint</td>
<td></td>
</tr>
<tr>
<td>2.5 lbs. dirt and waste</td>
<td></td>
</tr>
<tr>
<td>67.0 lbs. cotton seed</td>
<td></td>
</tr>
</tbody>
</table>

50 cents per lb. of seed cotton to the grower is therefore equivalent to 164 cents per lb. of lint to the ginner:

- Cost of processing, including all materials\* \.............. 164 cents/lb.
- Exporters' commission, insurance and railage, etc. (i.e., f.o.r. to f.o.b.) \.............. 25 cents/lb.
- Cotton export tax \.............. 8 cents/lb.
- Less estimated value of cotton seed \.............. 38 cents/lb.
- Balance being equivalent f.o.b. price Mombasa \.............. 241 cents/lb.

The following quotations from the Report of the Uganda Cotton Industry Commission 1948 (See Bibliography No. 43, pp. 24-75) describe the conditions of the ginners and the difficulties of maintaining pure seed:

"The average condition of the ginners is shocking, antiquated machinery and prime movers need replacing, and the majority of the buildings are old and provide unhygienic and most unsatisfactory conditions for the work people. The average age of ginners was about 25 years.

"Small ginners widely scattered throughout the Territory no doubt stimulated pioneer cultivation.

"It is impossible to keep the seed pure; contamination is bad in all districts of Uganda ....the matter of seed distribution is of great urgency, BP52 seed has been going for ten years and there have been four waves issued.

\* Subject to revision for each price movement of 5 per cent or more.
"The ginner seldom helps with seed distribution....and attempts to obtain a pure seed have been defeated by lack of cooperation from ginners....there is bad storage of seed for planting."

These quotations are cited to draw attention to a situation that has arisen through the uncontrolled development of a cotton ginning industry by individuals unaware of the importance of quality and technically ignorant, and to emphasize the difference between Uganda and Italian Somaliland where the ginneries are comparatively modern and generally efficiently operated. At the same time, this indicates very clearly the necessity for organisation and the difficulty of ensuring that seed is kept pure unless the ginners fully appreciate the importance of this and are prepared to cooperate fully.

The Lint Marketing Board through the efforts of their Technical Section are already making a considerable contribution to the improvement of the standard of grading and ginning. At the beginning of each ginning season, a sample of fair average quality (middling) of cotton lint is set up in a sealed glass topped box which is replicated for reference. Other sample boxes are set up representing the following grades:

- Strict middling: plus 6/- premium per bale
- Good middling: plus 14/- premium per bale
- Strict low middling: minus 6/- penalty per bale
- Low middling: below standard penalty subject to arbitration

Each lot of 50 bales produced by each ginnery is sampled and the ginnery paid a premium or penalised accordingly. All samples are labelled and kept for reference until the end of the season. A very detailed examination of each sample is undertaken, and it is classified according to:

a) Average staple length: 1 1/4", 1 3/16", 1 1/8", 1 1/16" or 1"
b) Grade: Good middling, strict middling, middling, strict low middling and low middling.
c) Defects: rat-tail seed, crushed seed, broken seed, oil, foreign matter.
d) A full record of the sampling of each 50 bales is kept so that each ginner, if he is interested enough to come to the Lint Board's headquarters in Kampala, can see for himself exactly why he has received a premium or has been penalised for a particular lot as the case may be.

This quality incentive scheme has been in operation for three seasons, and a considerable improvement in the quality of ginning was already apparent in the second season. Each bale is marked and stencilled according to district, grade and ginnery and the cotton exported to Liverpool and Bombay is paid for on the basis of sealed replicated samples prepared at the beginning of the ginning season. Each district has an established fair average (F.A.) quality and, in general, two premium qualities and two below standard qualities.

During the 1951 season, £170,000 were received in premiums on cotton exported above standard quality, and £116,000 were paid out as premiums to ginners in accordance with the quality incentive scheme.

The cotton export duty was levied according to a sliding scale. (See Bibliography No. 44). The revenue from this tax was approximately 100,000,000 shillings in 1951.
For good raw cotton (safi) at an f.o.b. price of 240 cents per lb., the rate of duty is 34 cents, and an additional tax of 2 cents per lb. is paid for every 10 cent increase in price above 240 cents. For second grade cotton (fifi) there is a 2 cent increase in duty for every 30 cent increase in the f.o.b. price. All prices are f.o.b. Mombasa.

Only two firms undertake delinting, and the production of linters is very small, about 20 bales per season.

There are 26 oil mills where cotton seed is expressed, and 127,000 tons of cotton seed available in 1951 are being disposed of as follows:

- 20,000 tons of seed for planting
- 5,000 tons used for fuel in operating ginneries
- 15,000 tons exported to the Ministry of Food
- 37,000 tons for oil expelling and sale under oil control regulations
- 50,000 tons balance for oil expelling and sale on free market.
The strains of cotton recently sent to Mogadishu from Namulonge are:

- **MU8** - ex-India, jassid-resistant
- **BP52** - standard Buganda strain, good quality
- **3MB** - modal bulk, not jassid-resistant
- **A616**
- **A618**
- **A7262** - similar in quality to BP 52 with lint length of 32 to 36 mm.
- **A824**
- **U4/8161**
- **U4/6250** - jassid-resistant
- **U4/5143** - crosses developed in South Africa under low rainfall; drought-resistant and high yielding. Jassid-resistant MU8 and BP52 hybrids.

Mr. D. MacDonald, Plant Breeder at Namulonge suggests that these strains be grown in small plots under uniform soil and planting conditions adjacent to the local Variety Sakellaridis for comparative purposes, at either or both of the experiment stations at Genale or Alessandra, both with irrigation as normally practiced and entirely without irrigation. Only one plant should be left per hill at thinning, and the accepted local spacing used, provided this is not closer than 1 m x 60 cm.

It would be advisable to carry out this comparative trial not only at the experimental stations but also in the coastal belt and near Iscia Baidoa. Provided plenty of notice is given, Mr. MacDonald offered to supply up to 2 lbs. of each variety by surface mail in addition to that already supplied.

These varieties are being tried in the coastal belt of Kenya and so information as to their performance in Italian Somaliland is of great interest to Namulonge. Assistance in giving instructions in experimental layout of simple statistical field trials was also offered, and visits from experimental station workers from Italian Somaliland would be welcome.
APPENDIX 5

Decree No. 51: Measures to Protect Cotton Cultivation from Parasitic Diseases

THE ADMINISTRATOR

By virtue of law No. 12 of 8 February 1950;
By virtue of the decree of the President of the Italian Republic, dated 31st March 1950;
By virtue of Ordinance No. 5 of 12 April 1950;
Whereas it is advisable to adopt measures intended to protect cotton cultivations from parasitic diseases, so as to limit infestations which would be harmful to the increasing of cotton cultivation;
Having heard the opinion of the competent technical office;

Decrees

Article 1

Residues of cotton cultivations must be destroyed by fire by the owner of the cultivations; in the event of failure, even partially, to do so the Administration will destroy them ex-officio, at the defaulter's expense. The latest date by which such destruction must be completed has been fixed at not later than the 30th April of each year.

What is meant by residues of cotton cultivation is: stalks, leaves, roots, old bolls and, in general, all residues of cultivation of cotton plants must be uprooted in good time in order to allow the residues to dry sufficiently to be destroyed by fire. It is forbidden to cut the plants at ground level instead of uprooting them.

Article 2

If at the date fixed for the uprooting there are cultivations which, for sundry reasons, are still in production, the parties interested in the cultivation may apply for an extension of time for destruction to the competent technical office of the region.

Such extension may be granted exceptionally, and its term fixed without dispute by the competent technical office of the region, or, if this does not exist, by the Agricultural Inspectorate, Mogadishu,

Article 3

In case of recognised necessity, owing to a serious danger of spreading of parasites and cotton diseases, the Administration is empowered to order, without its being questioned, the total or partial destruction even before picking time, within a fixed term.
Article 4

Notwithstanding the provisions of Article 1 concerning the time for destruction of residue of cotton cultivations, the term, for the current year, is protracted to the 20th of May.

Article 5

Infringements of the present decree will be punished with a fine from 100 to 5,000 Somalos, or imprisonment up to 30 days. In case of repetition of the offense or in more serious cases, the fine shall in no case be less than 300 Somalos.

Article 6

The task of enforcing the present decree is entrusted to the territorial political and administrative authorities who will see to it through the up-country agricultural services and the police.

The present decree comes into force at the date of its publication, and at the same date all different provisions are cancelled.

Mogadishu, 26th April 1951.

The Administrator
Fornari.
### Appendix 6

**Cotton Production in Italian Somaliland**

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (Hectares)</th>
<th>Production of Lint (Quintals)</th>
<th>Average Yield per hectare (Quintals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1931-32</td>
<td>9,850</td>
<td>11,021</td>
<td>1.1</td>
</tr>
<tr>
<td>1932-33</td>
<td>6,142</td>
<td>9,334</td>
<td>1.4</td>
</tr>
<tr>
<td>1933-34</td>
<td>5,255</td>
<td>9,450</td>
<td>1.7</td>
</tr>
<tr>
<td>1934-35</td>
<td>4,260</td>
<td>6,568</td>
<td>1.5</td>
</tr>
<tr>
<td>1935-36</td>
<td>4,797</td>
<td>6,726</td>
<td>1.4</td>
</tr>
<tr>
<td>1936-37</td>
<td>3,700</td>
<td>4,099</td>
<td>1.1</td>
</tr>
<tr>
<td>1937-38</td>
<td>3,600</td>
<td>3,187</td>
<td>0.8</td>
</tr>
<tr>
<td>1938-39</td>
<td>5,000</td>
<td>3,540</td>
<td>1.4</td>
</tr>
<tr>
<td>1939-40</td>
<td>6,000</td>
<td>5,600</td>
<td>0.9</td>
</tr>
<tr>
<td>1940-41</td>
<td>380</td>
<td>394</td>
<td>1.0</td>
</tr>
<tr>
<td>1941-42</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1942-43</td>
<td>200</td>
<td>300</td>
<td>1.5</td>
</tr>
<tr>
<td>1943-44</td>
<td>600</td>
<td>1,000</td>
<td>1.6</td>
</tr>
<tr>
<td>1944-45</td>
<td>500</td>
<td>400</td>
<td>0.8</td>
</tr>
<tr>
<td>1945-46</td>
<td>400</td>
<td>600</td>
<td>1.5</td>
</tr>
<tr>
<td>1946-47</td>
<td>500</td>
<td>500</td>
<td>1.0</td>
</tr>
<tr>
<td>1947-48</td>
<td>120</td>
<td>180</td>
<td>1.5</td>
</tr>
<tr>
<td>1948-49</td>
<td>339</td>
<td>470</td>
<td>1.3</td>
</tr>
<tr>
<td>1949-50</td>
<td>2,700</td>
<td>4,950</td>
<td>1.8</td>
</tr>
<tr>
<td>1950-51</td>
<td>5,500</td>
<td>9,000</td>
<td>1.6</td>
</tr>
<tr>
<td>1951-52/</td>
<td>26,400</td>
<td>34,500</td>
<td>1.3</td>
</tr>
</tbody>
</table>

1/ The data relative to the SAIS have been obtained directly from the records of the company; those relative to production in the Genale area and elsewhere from 1947-48 onwards were obtained from the Agricultural Department of the AFIS in Mogadishu, and those of the previous years are the figures given to the visiting United Nations Commission in 1948.

2/ Estimates provided by the Agricultural Department, Mogadishu.
APPENDIX 7

PRIVATE AGREEMENT
CO-PARTICIPATION CONTRACT FOR THE CULTIVATION OF COTTON

In conformity with the verbal agreements between the Roman Association for Colonization in Somaliland (Societa Romana di Colonizzazione in Somalia) and the undermentioned Chiefs:

it is agreed and stipulated as follows:

1) The SRCS undertakes to organize the cultivation of cotton in co-participation with the autochtones in the district of -

2) Selected cotton seeds will be furnished free of charge and seasonably by the SRCS to growers dependent on the above-mentioned Chiefs.

3) Cultivation will be effected exclusively on behalf of the SRCS and from the moment it is sown the produce shall be the exclusive product of the SRCS, SRCS undertakes to accept the cotton produced from 1 November 1951 to 30 April 1952 and the Chiefs and growers undertake to make available to the SRCS all the cotton grown. The SRCS and the Chiefs shall arrange a price before the picking starts, and in case no agreement can be reached by the two parties, the sale price shall be fixed by the Administration.

4) In agreement with the Chiefs, the SRCS shall grant deserving growers an advance of So. 6 for each darab producing cotton. At the discretion of the SRCS such an advance may be paid in two installments: So. 3 after the first weeding and the remaining sum when the cotton has reached a height of 50 centimetres.

5) The cotton must be delivered to the SRCS at the collection points nearest the producer. Such centres will be established later in agreement with the Chiefs.

6) On their own behalf as well as on behalf of their people, the Chiefs undertake not to enter into similar contracts with other persons, firms or organizations and not to produce cotton for themselves.

7) Payment of the cotton produced shall be made in cash on delivery, on deduction of any advances granted.

8) Should either the growers and Chiefs or the SRCS fail to adhere to the terms of the present contract the local Resident shall be the indisputable arbitrator.

...... 1951
I the undersigned declare that I have collected Kg of cotton seed for cultivation exclusively on behalf of the SRCS in conformity with the contract drawn up by the SRCS and my chief.

I declare to be aware of the terms of the contract which my Chief has with the SRCS, to agree with it and to acknowledge every clause which has been established in it.

I am also aware that the price at which I shall surrender the uncarded cotton will be fixed in agreement between the Chiefs of the District and the SRCS, and if no agreement is reached by them the price shall be fixed by the Administration, and I undertake hereafter to accept whatever it may be.

Date

In faith
APPENDIX 9

MAP OF COTTON GROWING AREAS

SOUTHERN SOMALILAND
COTTON ZONES (1951)

- Cotton cultivation
- Ginnery
- Road

MAP NO. 438 UNITED NATIONS
OCTOBER 1952
CHAPTER V. EDUCATION

SECTION I. GENERAL INTRODUCTION

It is the purpose of Fundamental Education to "help men and women to live fuller and happier lives in adjustment with their changing environment, to develop the best elements in their own culture and to achieve the social and economic progress which will enable them to take their place in the modern world."

The task of closing the gap between an under-developed country and the rest of the modern world is one which is shared by the country itself and by those agencies which can extend help and tender advice. This giving and taking of responsibility is therefore one of the prime factors to be taken into account in plans for development. The inculcation, which is more than the introduction, of democratic principles, both for adults and children, should be given first place and should be a subject of functional training rather than abstract teaching.

The pioneers in such a field of work have usually met with considerable resistance from the traditions of indigenous peoples, but the difficulties are not removed when these peoples are thirsty for advancement and eager for schooling, as in the Trust Territory of Somaliland under Italian Administration. On the contrary, those who, with much humility, are prepared to offer guidance are faced with a dilemma. On the one hand is the urgent need for progress in material and technical ways, a progress which alone can bring an improvement in nutrition and health, a breaking down of prejudice and the functional training of the people of the country, both men and women, in order that they may take responsibility in the ordering of the growing complexities of their country as it awakes. On the other hand, there has been plentiful evidence in the past, in all such countries, of unhappiness caused by uprooting the young from their family environment and of the facility with which a minority will imitate or absorb only the veneer of Western civilization. This causes offense to their elders and disappointment to those chiefly responsible for the changes taking place. They may even feel that they have taken from such men their own culture and not enabled them to develop a balanced culture to replace it.

The processes of trial and error in the rapid development of a country are still unavoidable. It is therefore necessary to return to first principles and to restate the educational philosophy based on three beliefs:

Firstly, education is a universal process which consists in giving opportunity to young and old for development of attitudes and skills and character; and the process includes giving guidance during these developments.

Secondly, the pupil, young or old, partly by instruction, but even more so by being given a chance to take responsibility, should be prepared not only for the world in which he is living but also for the changed world of the future. In Somaliland the child in his home naturally assumes certain small tasks, suited to his age, and certain responsibilities which give him a maturity in his own environment. In the school, these graded responsibilities and this sense of achievement must not be lost: the need for them must be continually in the teacher's mind. Opportunities for taking responsibilities and carrying them to a finished conclusion must be provided, and this applies no less in the case of adult classes and training projects for the older generations.
Thirdly, in a country such as Somaliland, historical sense differs so profoundly from that of the Western world, that a process of reorientation is necessary if formal education (in schools, classes and technical apprenticeship) and informal education (by demonstrations and audio-visual stimuli, as well as by the force of example) is to be successful. What we call a sense of proportion is part of the re-orientation. The less sophisticated among the Africans live in the present; their traditions and prejudices are within them rather than behind them; they are unaware of the stages which have brought them their present level of culture, and, for that reason, unaware, in the sense that the European is aware, of the progress which is open to them, the stages which they must pass through to make this progress and of the European sense of cause and effect.

In Somaliland, a Trusteeship Administration has been established. The people are already desirous of maturing rapidly, and of taking the helm as soon as it can be relinquished. There is no prejudice against schooling and a lively interest in education in a wider sense. There are, however, certain difficulties which must be overcome before an educational programme can be drawn up in detail and carried out smoothly. Qualified teachers and a variety of textbooks are needed and so is special equipment. With the country standing at the cross-roads, so far as its economic life is concerned, when the paramount need is for it to become self-supporting at adequate standards above the present level, it finds itself in desperate need of a costly and widespread plan of fundamental education (in addition to the present educational provision) to prepare it for the developments in agriculture and livestock production and the stamping out of disease, which represent the basic minimum of achievement before further educational plans can even be considered. For reasons of economy of labour, time and money, the normal school system (envisaging many years of formal instruction or vocational training) and also the fundamental education for the mass of the people must each keep in mind the parallel process of economic development. Every effort must be used to advantage; every inefficiency of organization or method must be promptly remedied; the teaching of reading and writing must have a definite aim; and, above all, new techniques must be put over in such a manner that the watchful peoples may see that the new methods are generous, are skilled and are suited to their needs.

To this end a period is envisaged during which active preparations for fundamental education, by the most modern methods, are prepared in detail and tested before being applied in areas hitherto untouched and to replace schooling not as yet fully adapted to actual needs. The cultural elements of education must be preserved in economical form, and the utilitarian elements, where scanty or non-existent, must be more adequately represented.

Educational plans must take into account the differences between town and country, which are stressed in many sections of this report. In the towns the subject matter and the methods of teaching in secondary as well as primary schools should be skillfully related to the life of the nomadic and rural areas so that the more educated and advanced townsfolk may have a knowledge and sympathetic understanding of the life and needs of their countrymen. In rural areas, which form the greater part of the country, vastly greater part of the country, vastly greater both in area and in population and containing a wide variety of conditions and of ways of life, the fundamental needs are a programme of research, a provision of immediate technical assistance in certain defined fields, a stage of making contact with communities.

1/ AMMINISTRAZIONE FIDUCIARIA ITALIANA della SOMALIA, referred to in this report as AFIS.
of varying sizes, of enquiring further into customs and attitudes not fully appreciated and of helping those at a low level of subsistence to better themselves by their own efforts under guidance.

In the rural areas great care will be needed to introduce only patterns of self-reliance, and in such sequence that these new patterns reinforce each other. In a campaign to raise the standard of living and to enable the peoples to share in a general awakening, not only for the nomads but also for those in areas of rural settlement, the order of events must be dictated by the urgency of the needs, so that developments which may be expected to follow may be related to the immediate and economic social requirements of the community, rather than to personal advancement. The "five-year plan"

A five-year plan for the development of public education was being prepared by AFIS during the period of the Mission. This plan was completed and handed to the educational expert three days before he left Somaliland. The plan has not at the time of writing been discussed by AFIS representatives and the educational expert on the Technical Assistance Mission.
The Office of Health and Public Education units two responsibilities in the Trust Territory of Somaliland, and the Public Education Section of it deals with purely educational affairs for both Italians and the indigenous population of the country. There is a Central Advisory Council on Education. It should be made clear at the outset that the Administration is understaffed. The head of the Section (Istruzione Pubblica) has a Somali secretary, but there is no assistant or deputy. Next in the chain of administration comes a number of directors of which one is the director of elementary schools. Primary education (for both children and adults) is at present the only form of instruction which extends outside Mogadishu, the capital city and headquarters of the Administration; and six local directors are responsible to the director of elementary schools. For post-primary education in Mogadishu, a number of directors are responsible to the head of the section. The work of post-primary schools in the system may be generally described as secondary and vocational education, and the work done prior to this stage is, in fact, primary education.

Secondary and vocational education is at present confined to:

1. One School for the Training of Teachers.
2. Two Secondary Schools of the Italian and Somali type respectively.
3. One School of Political Administration.
4. One Aeronautical School.

Plans have also been made for the following schools to be formed, but little, if any progress seems to have been made with the solution of the problems of building and staffing which the establishment of such additional schools will set: The intention is to provide training in Agriculture, Commerce, Artisanship, Sanitation, Seamanship (Fishing and Marine) and Industry all of which will receive pupils who have passed through the elementary schools and who will then be able to sit for entrance examinations.

With the exception of the Italian Type Secondary School, all the existing secondary and vocational education is on a part-time basis. For example, the Somali Type Secondary School has classes in the morning only (for four hours) and the pupils, whose ages run from 12 to 16 years, state that they devote the rest of the day to gainful occupations. The School of Political Administration, which gives a three-year course to selected men destined for high grade posts in administration, is a part-time evening school, the pupils of which work in government offices or in business or professions (such as Arab law) during the daytime. In a sense the present pupils of the Teacher Training School are also on part-time training, for during the mornings they are working as paid assistant teachers, and their "training", practically the whole of which is secondary education in the subjects of instruction (mathematics, history, geography, Italian and Arabic), plus one hour weekly devoted to pedagogy and one seminar or demonstration lesson, is held in the evening. The Aeronautical School also is an evening school.

There is no printed code of regulations for schools of recent date. The last regulations printed were the Scholastic Ordinance for the Colonies, dated 1936. See Notes on the Scholastic Organisation in the Trust Territory of Somaliland prepared by the Italian Administration (Appendix B.)
The system is in many ways complicated by this fact - namely that all education above the primary stage is part-time education; this education is free, but to enable the students to subsist themselves, they have to earn their living by day, and study by night. The best that can be said of it is that the diligence and thirst for knowledge on the part of the pupils are given ample scope and that the cost of subsistence falls neither on the parents nor on the Administration. The main defect would appear to be the short hours available for instruction.

To overcome this, and to cater for the lower age of entry to higher education which is expected to follow in a year or two, the Administration has started to build two residential colleges (i.e. boarding schools), one for middle school boys from the country (to be used also as a residence for teachers attending holiday refresher courses) and one for the sons of Somali soldiers. The opening of a residential agricultural school at Merca has been discussed, and a boarding school is also planned for Iscia Baidoa, a town of some importance in the centre of the agricultural area of Upper Juba.

The whole structure of secondary education and specialist training is dependent on the efficiency of the elementary schools, and these fall into three categories:

1. **Elementary day schools of Somali type** which cater for 4,100 children native to the country, the majority of whom live in the towns of Mogadishu, Brava, Merca and Kismayu. These give a 5 or 6 years' course, the preparatory year being optional.

2. **Elementary day schools of Italian type**. There are seven of these educating 261 Italian children and 20 Somali children.

3. **Elementary evening schools for adults** which cater for 4,000 adult natives of the country almost entirely in the towns mentioned. These give a three-year course. There is instruction in Italian and Arabic, and a student can study either or both.

The very closely similar figures given for children (4,123) and adults (4,154) may be a measure of the capacity of the classrooms which are, in fact, used by both age groups at different times of the day. Certainly the crowded state of the evening classes, in which fully grown men occupy, two by two, the desks intended for children, in classes of 50, bears out this probability. Before proceeding to further consideration of the general content of elementary education, the problems of staffing, of languages and of textbooks, it would be opportune to consider the implications of these numbers and to estimate also the situation which will result from it.

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1/ Schools in the Sudan give 4 years of Elementary, 4 years Middle and 4 years Secondary Education. This is full time education.

2/ In addition, 60 boys attend the Scuola di Artigianato di Somalia and receive Elementary Education. (See TECHNICAL TRAINING).

There are also two private schools (Hindu-Pakistan) with a total of 130 pupils and various classes conducted by the Somali organizations. These are assisted by AFIS but are not well housed. This should be rectified. (See PART II. RECOMMENDATIONS).
When the present Administration took over, there were nearly 3,000 children in 30 schools opened by the British war-time administration, and a comparatively large number (65) of teachers made up of Somali trained in a short course of nine months, some imported Arab teachers and Mission teachers.

In the absence of a written form of the Somali language, the languages first used in school were Arabic and English.

It is therefore clear that, so far as the coastal towns are concerned, the country has not passed through the early stages of educational development which has been the lot of other dependent territories. Here in Somaliland towns, there has been no reluctance on the part of parents to send their children to school. In part this may be due to the fact that no fees are imposed, whereas in nearly all other parts of Africa small fees, ranging from threepence per quarter in the elementary school to two shillings or more in the secondary school, were charged by the school managers, who were for the most part representatives of Christian Missions. There are however a large number of Koranic classes.

The burning desire for schooling which is so marked a feature of Somaliland is in part an indication that the people are very much alive to the implications of a Trusteeship for this Territory with a certain term of office to run. In the case of adults, in particular, even larger numbers would present themselves for elementary schooling if there were sufficient accommodation and a sufficient teaching staff. In Mogadishu the adult elementary classes are strained to the utmost, and one elementary school, built and furnished for children, conducts each evening three consecutive sections, of two hours each, giving instruction to about 960 adults.

However, apart from the towns mentioned, the majority of the population is scattered over an extensive and bitter country; some 15 small elementary schools are located in areas where Italian farms have caused a concentration of native labour, and some 25 more are situated up-country in areas of settlement. In the main these country schools are cut off from regular inspection since the roads are so bad. For example, the Province of Mudugh has a seaboard of 500 kilometres and extends inland for 220 kilometres. In this area are five schools, to be reached by the roughest of tracks which at certain times of the year are impassable. In the most isolated Province, Midjurtein, where the problems of survival are most intense, two schools are open, and the opening of five more was delayed until a means could be found of transporting the teachers by air or sea. The regular visiting of such schools is essential, not only to ensure that the newly trained teachers are suitably placed and are proving their worth as pioneers of basic education, but also to give them supplies, to encourage them, to discuss the home background of the pupils, and collect information about the nomadic peoples on which later developments of fundamental education can be based.

In 1950-51 the number of elementary schools for children was 39, all of which were visited at least once by the Director of Elementary Schools; before the end of 1951-52 there will be 62 schools, the increase being entirely in up-country areas.

1/ These receive no direct grant from AFIS which estimates their number at 400.

2/ 35 schools of the Elementary Somali type were visited by the Technical Mission. According to figures supplied, 47 such schools were actually at work.
and it is extremely doubtful whether all these can be adequately inspected from headquarters and adequate records of inspection filed. Whether the provincial directors can cover the ground will depend chiefly on whether transport can be made available locally for a round trip of three weeks or so. But it would seem desirable to create a post of deputy to the Chief of the Section of Public Education, so that he can be free at times to visit all areas of the country, and a staff of skilled inspectors for advisory work, one of whom should be a Somali, and one an Arab.

1. Teachers and Teacher Training

Considering the brief period which has elapsed since a system of public education was founded, that the initial work was done during a period of total war, and that on 1 April 1950 the system was handed over to the present Administering Authority, the standard of education is better than might be expected. Naturally the Somali teachers' background of book knowledge is very slight, but a successful refresher course for all teachers was held in the summer of 1951, and it is proposed to hold such courses every year. Meanwhile the training of teachers is somewhat of a compromise. The day of the trainee is made up of a full morning's work as assistant in one of the elementary schools in Mogadishu, and four hours classwork in the evening for the betterment of his own knowledge in Arabic, Italian, history and geography, mathematics and hygiene. Games and gymnastics (and their teaching) are not included in the syllabus. It should be noted here that the method of instruction in these classes is of paramount importance. Unfortunately the slender knowledge of Italian which these students from all over Somaliland possess dictates a policy of cramming. It is not rapid cramming, in fact the pace is decidedly slow, but it is to be expected that the same formal approach, the fixed seats, the tempo suited to the slowest pupil, and in general a lack of illustrative material, of textbooks and of any independent work, will produce in these young teachers formal habits of mind which they will perpetuate in their teaching. This criticism is made in good faith with full appreciation of the difficulties which the instructors have to face. It is however important that new methods, an element of surprise to revive interest, a deliberate emphasis on activity in the classroom and the careful planning of revision work (and strict adherence to it) should all be allowed to produce the same atmosphere that is needed in the elementary schools in which these young men and women will teach. They should be shown how to make notes of lessons and expected to use them later in all their work. At present the atmosphere of the modern infants' school and junior school is lacking in practically all the elementary schools in Somaliland.

In addition to the day's programme outlined above there is one weekly hour devoted to pedagogy or the theory of teaching and, in response to a suggestion made by this Technical Mission, one two-hour period weekly in the morning devoted to a demonstration lesson and seminar. A cyclostyled sheet covering the subject matter of each lesson is distributed to the students for most, but not all, subjects, but as yet the making of formal "notes of lessons" has not been attempted. Such notes of lessons, in complete form, including notes of maps and diagrams which will be reproduced on the blackboard, notes of arithmetic processes or subject matter to be covered, of new words which will be encountered in reading or in speech, of matter to be revised, etc. should be prepared before each lesson. Furthermore, they should be
followed by notes of difficulties encountered in the lessons, of new lines of thought opened up by the children's questions, and of self-criticism with a view to a more successful approach to the same lesson in years to come. This may sound to be a counsel of perfection, but the value of the training which this work of preparation alone can give and the value of producing these notes at refresher courses is indisputable. In addition, the task of an inspecting officer is much simplified if he can see what ground has been covered and what kind of approach to his class is made by the teacher (whose acquaintance he may be making for the first time), and it enables practical and constructive suggestions to be made. In the course of visits to 35 of the existing elementary schools, very few examples of such notes were seen, and they consisted of a bare note on the day's work, such as: "The children learn about the dog, and to write (The dog is a carnivorous quadruped."

A progressive improvement in the work of the Teachers' Training School may be expected when the students can be selected from the lower middle and upper middle classes of the Somali type Secondary School. The Chief of the Education Section is confident that, when the students have themselves received a better education, far more time can be given to their professional training. He is however well aware of the competing demands that will be made for the output of the new secondary (or middle) school in the next ten or fifteen years. This can be met to some extent by the opening of rural schools of a more practical type, where can be trained the right material for agricultural schools and schools for artisans, in schools with a rural bias of a prevocational (or evocational) nature. They would be in fact senior schools - that is, they would recognise that the pupils' schooling would come to an end at the age of 15 or 16 years and would be followed by apprenticeship to a trade. The possibility of developing a Rural Teachers' Training School as a result of the experience to be gained from such schools has been discussed. The Administration already have in mind the creation of a Jeanes School.1/

2. School Buildings

There are a number of exceptionally fine, modern school buildings in Mogadishu, notably the Italian Type Elementary School, the Italian Secondary School (Lycee and Ginnasio) and the Aeronautical School. All these buildings are available in greater or lesser degree for Somali pupils. For example, the Italian Secondary School gives a form of education for which the natives of the country are not yet prepared and which is designed to lead to further education in commercial schools, technical schools and universities in Italy. But the building is also used for the evening classes of the Teacher Training School. Some Somali pupils attend the Italian Elementary School, a fine building with a large gymnasium, where of course the programme of studies is directed to the same end, and Arabic for example is not taught. Other modern buildings have been erected in such places as Kismayu, Afgoi, Brava and Balad, and the foundations of further modern buildings were seen in Iscia Baidoa and Margherita. These buildings are very well designed, are built of stone where this is available or of a composite of heraclite sheets and concrete, with corrugated asbestos roofs, a verandah and a water-supply for lavatories, shower baths, etc.

1/ The development of the original Jeanes School to be seen at Nairobi merits very close attention.
Reference was made earlier in this section of the report to the telescoping of educational history in Somaliland. In other words, certain stages of customary evolution and development have been omitted because of the pressure of public opinion, the obligations of Trusteeship and the short duration of an educational programme. A strict recapitulation of the processes of trial and error, by which most systems have developed in the course of 150 years, is of course unreasonable and not to be considered. On the other hand, in other parts of Africa it has been found both expedient and desirable to construct schools which fit into the village background: expedient, because funds do not permit the construction of permanent buildings, nor is it always certain that the site chosen would suit a long-term programme, desirable, because the interest and practical assistance of the village can be aroused.

The villagers in many cases erect the school at their own expense and thereafter take a proprietary interest in it, in its maintenance and in the conducting of school activities, extending in most cases to school gardens, school playgrounds and school dispensaries. Furthermore, it is possible, by discreet guidance, to introduce modifications and improvements on native building construction in the hope, often realised, that the villager will by slow stages adopt them. On these grounds it is therefore believed that the provision of such superb buildings, at a cost of say 30,000 shillings\(^1\) for three classrooms, of material exclusively imported from overseas, is providing an ideal which will not influence the housing conditions of the villages, which are usually poor and sometimes deplorable.

Apart from the ancient stone and rock-coral dwellings of the coastal towns, dating from the days of the Sultans and all too frequently crumbling into insanitary decay, the majority of the settled inhabitants live in mud and wattle huts called *arish*. A compost of cow-dung is slapped on to a circular frame-work of wattle, or sticks, and a badly made roof of grass or palm-fronds is then placed on top. On the outskirts of towns and villages various modifications are to be found. Where there are no white ants (e.g. on the sand dunes which overhang all the coastal towns) wooden huts are seen, and many huts are built of flattened oil-drums or kerosene tins, which are also used as roofing material. In the compound of an Italian farmer were seen two improvements on the wattle-and-daub native *arish*. The mud was strengthened by the admixture of cement, the floor was cemented, and two kinds of wood impervious to white ants were employed: the dub palm for central pillars and mangrove poles for the wattle uprights and also for the frame of the grass roof. But the typical African mud hut, built of mud bricks hardened in the sun and with a well thatched roof, was not seen anywhere in the country. The seminomadic and nomadic people live in even simpler structures - Tukuls like the Eskimo igloos in shape, small, domed arbours of interlaced sticks, covered with whatever comes to hand in the way of thorn branches, matting or bundles of grass and weeds. The true nomad has so far simplified this structure that it may be called a tent and bears a close resemblance to the Bedouin tents.

So far as can be ascertained, there has been no investigation into the possibility of improving the indigenous dwelling.\(^2\) In the Italian farms and where 1/ Figure supplied by AFIS: Cost of transport of materials would vary and would add to this. 2/ The East African Literature Bureau, Nairobi, publishes a booklet on native houses and their improvement.
troops are, or have been quartered, one may see circular concrete "pillboxes" which were used to accommodate soldiers or farm workers, and this suggests that a cheap building, of local materials, is impracticable. It may be that the mud of East Africa is totally unsuited for building and that the grass or palm fronds available for thatching are inferior to those used in West Africa. However, it would seem that no improvement of native housing, other than the use of stone (where available) and imported materials (such as concrete, herculeite sheets, asbestos, or aluminum roofing, corrugated iron and steel girders) has yet been discovered. Yet a campaign for healthier villages, starting with improvements in public buildings, markets and well-heads (or piped water supplies) would be more successful if some better exploitation of local materials could be made and their use encouraged whenever possible. Here the bush school would prove the value and cleanliness of new uses for old materials, in combination with imported roofing materials and cement floors.

3. Other Aspects of Educational Work

Orphanages, under Mission management, with per capita grants from AFIS, are doing excellent work at Mogadishu, Merca, Brava and Iscia Baidoa, and a large orphanage for older boys is conducted by AFIS at Mogadishu.

These orphanages are well managed, and ample provision is made for primary education. The older boys, while still living in the orphanages, are apprenticed to various trades in public works, printing, etc.

4. Textbooks

The only books seen in use in Somali schools are:

a. A first reader in Italian, Alba Radiosa. This is an attractive first reader, specially written for Somaliland by members of the teaching staff. It is plentifully and suitably illustrated in full colour and is suitable both for children and (providing additional matter of a more mature nature is used by the teachers) for the first stages of adult education. This book is on sale to pupils at much less than cost, but the price is still rather high (4 shillings), and supplies are not yet sufficient. Further volumes of this kind are being written to form a series of graduated readers.

b. The series of Italian Readers, graded and well illustrated, with far more didactic matter and covering a wide vocabulary. These books are not suitable for elementary and middle classes and are not in general use. They are too expensive. They are used in the Italian type schools.1

1/ There are a number of brightly illustrated readers in use in the Italian type schools, and those intended for the Italian children of primary standard could be used, it is said, in the Somali Middle School. However, prominence is given to the lives of the Saints, the blessed Sacraments, confession, original sin and religious precepts which would have to be omitted (in fact the use of these particular volumes would give rise to strong protests). Also, a good deal of space is given to the lives of great artists, to Greek Mythology, etc. If the choice is left to the initiative of the teacher, the results may be either ridiculous or disastrous, especially when even Italian teachers consider that learning names like obtuse-angled triangle, polygon, rhombus, etc. are a fitting study for Somali pupils in an elementary class.
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c. A series of four books on the grammar of the Italian language (Il Fiore di Lingua).

d. A series of three books on elementary mathematics.

e. Two books on elementary sciences. It would be desirable to have "school copies" of all these books; teachers are authorised to give materials free to a certain percentage of children, to enable the poorest to receive materials. In effect, since supplies are inadequate or have not been fully distributed because of the difficulties of transport, it would cost no more to have say 40 copies per school of the appropriate readers for class use, than to distribute 30 per cent of texts free. The adult classes badly need such books.

f. Five graded Arabic reading books and two grammars, graded. (See section on Languages). These are printed in Egypt.

5. Teachers' Books

So far as is known, with the exception of arithmetic books, no books have been specially selected for the use of teachers in class or to improve their own cultural background. This lack is most marked when one considers that there are no libraries outside Mogadishu, and is noticeable not only in children's schools but also in adult classes.

6. Libraries

There is a library in the Italian Middle School in Mogadishu but, apart from this, no school libraries, and no travelling libraries. In the Museum of Mogadishu there is an excellent reference library on Somaliland and African subjects, but there is no reference library on current affairs and on matters of general interest.

7. Radio, Films and Newspapers

The chief of this section speaks Somali.

It is possible to receive in Mogadishu programmes from Italy, India, Egypt, USA (via Italy), Britain (via Italy) and France (via Italy).

The Mogadishu transmitting station is giving a daily broadcast of one hour of Somali language and music, and one hour of Italian language and music. This will very soon be increased to two hours of each. School broadcasts are not made but may come. The schools would naturally have to have sets.

Mobile units for film and radio have been requested from UNESCO. There was no broadcasting until April 1951, and the present installation has been created since that date.

The transmitting unit is of low power but effective; it is housed in a

1/ Kitabu gawa'id ellurat el 'arabya and Alqiratu arrashida.
building which consists of a reception room, two technical rooms and a sound-proof studio.

The Mogadishu programme is heard in Nairobi and in Hargeisa (British Somaliland). The wave-length is 40 metres. The transmission is used for news, government notices, educational talks by specialists, etc. Among the latter were talks by the president of the Somali Youth League and a talk on the preparation of hides which was repeated by request.

There is practically no "fan mail" and no suggestions except a request for alteration of times of broadcast.

In the country it is intended that the Residents' offices should be broadcasting centres for group listening, and government sets are being provided consisting solely of a small battery set and a loud speaker; but as yet only four Residents' offices have a public set. It should be noted that all Residents are linked with headquarters by means of radio telegraphy, not by land line.

The Manager of Somali Broadcasting prepares the news in Italian and it is then translated at the time of broadcasting. There were many pauses and much hunting for the right word, resulting in a style which has to be enforced in other countries in order to avoid the appearance of reading. It is quite natural and gives an effect of spontaneity. The music is more popular than the news, so the latter is interposed between musical items.

The making of films was discussed. Their educational value is realized, and the preparation of special Somali films on a 16 mm. machine, synchronising Somali speech with the completed film is contemplated. The use of film strips was recommended as a cheaper form of research while preparing a cine film. The subjects to be recorded are: firstly, agriculture; secondly, hygiene, and it is stated that there is provision in the budget for about 8,000 Somalo shillings to be used for this purpose.

During a discussion on the difficulties encountered in making films for peoples of under-developed countries, the chief of the section expressed the view that there should be very little depth in the composition, i.e., that all the action should take place in one plane. It is proposed to employ different voices for different parts of the film and to use the Rahanuin dialect for agriculture and Darot for the hygiene film.

The local newspaper is printed daily by the government press. The paper, Il Corriere della Somalia is exceptionally clear and well printed. It contains no "Children's Corner" but a weekly women's page called Chiacchiere (Gossip).

Nine cinemas under private management are in operation at Mogadishu, Merca, Afgoi and Kismayu.

With regard to film censorship, it was stated that films were censored with a view to eliminating offences against morals and scenes of violence.

The responsibility for developing fundamental education will no doubt be
associated with this section of Administration; both the subject matter and
the techniques to be employed, together with the planning of locations and
routing of mobile teams will no doubt be dealt with by a special section.
Since the study and development of the Somali language is vital to any pro-
gramme of mass education or fundamental education, this too will probably be
linked with Radio, Films and Newspapers Branch, and it will be necessary for
close liaison to be maintained between the Education Branch, Fundamental
Education, and Press and Radio. Much of the material produced will be of
great help in the primary schools, particularly to the adults, and in time,
if a Somali Language Bureau is established, both sections will make use of it.

No comment is made on the division of responsibilities, for it is re-
ognized that a totally different outlook is required, as between formal
schooling and fundamental education. But it is not too soon to consider the
matter, for which expert assistance must be sought elsewhere.

8. The Languages of Instruction

From the point of view of educational administration, the use of three
languages and two alphabets imposes difficulties.

a. Italian, being the language of administration, is useful in daily
life in towns, and for those who continue their education to the
secondary stage and beyond it will in time give opportunities for
cultural and technical advancement with benefit to the country. It
does not, however, bring much benefit to the average pupil, nor put
him in touch with resources suited to his needs, as English would do.

b. Arabic, being the sacred language of Islam, is a language which no
Moslem community would omit from an educational programme. It must
be remembered, nevertheless, that there are two distinct forms of
the language, namely spoken and written classical Arabic; the
language of the Koran, on the one hand, and colloquial Arabic on the
other hand. To learn to read the Koran is quite a different matter
from acquiring a sufficient knowledge of the structure of the language
to appreciate its literary style or to write expressively.1/

c. Somali2/ is a language spoken practically by the whole population of

1/ In Somaliland, colloquial Arabic (Yemenite) is to a large extent the language of
commerce, export and import trading; and classical Arabic of course is the language
of Moslem law.

2/ Following a resolution of the Territorial Council passed in February 1951,
Italian and Arabic were officially confirmed as the languages of instruction
in schools. The oral use of the Somali language being permitted to help in the
study of these languages. Both the inhabitants of the country (an attempt to
estimate their views was made by a form of referendum conducted by Residents-)
and the United Nations Advisory Council, whose advice was sought, were in
agreement in recommending the teaching of Arabic as the second language in
preference to Somali. The Advisory Council also recommended that the Admin-
istering Authority seek the assistance of UNESCO for the purpose of develop-
ing a written form of Somali.
Somaliland and is the mother tongue of all except the pure Arab element in the towns, the Goscia people by the Juba who speak Swahili, and certain other communities described hereafter. It has not yet been committed to writing, except in a small number of works on the structure and forms of the language, a few elementary phrase books, and by research workers, including a Somali, the late Osman Kenedid, and his son. A discussion of its merits for systematic study in schools, apart from oral use in explaining the meanings of Arabic and Italian words, cannot be dealt with in this section of the report.

Since two foreign languages are taught and become the languages of instruction, the school work of those who attend the schools for, say, two years only, cannot be said to promise good results. It should be noted too that since the "direct method" of teaching Arabic and Italian is not followed (there are no texts), a further brake on formal schooling is imposed. The Somali child is quick and intelligent, but on the one hand the learning of two foreign languages over a limited period, with no follow-up, and on the other hand the endeavor to learn such subjects as history, geography and hygiene, are two competing elements which it is difficult to combine harmoniously. When to these is added the fact that some Somali teachers are more proficient in Arabic than in Italian and a few more proficient in Italian than in Arabic, the general results are difficult to assess. It should be recorded that so far as posting available teachers is concerned, the Administration has done its best; but in the programme of expansion which is envisaged, these difficulties will continue to hamper administration and impair efficiency. On the teaching staff the number of Italians speaking Arabic, and capable of teaching it, is very small, and even when Libyan-Arabs and Arabs are included, it is quite impossible under the present chain of command to devote regular and competent inspection to the teaching of Arabic. Moreover, none of the Italian teaching staff speaks Somali, nor are they actively encouraged to learn it. Neither the Administration nor visiting experts can weight up the situation so far as Arabic is concerned. Special inspectors are needed to report on the use of Arabic and of Somali, and to give advice to the teachers in the formal schools, quite apart from fundamental education.

The present position of these major languages is quite unsatisfactory and not likely to improve unless reforms are made. There seems to be one principle which could be used in planning school languages, and it has the advantage of allowing a rich variety of treatment while in fact clarifying the aims and making their attainment possible. This principle, if it can be followed, allows full weight for the opinions of all parties and the maximum opportunity for the individual and is expressed briefly in the paragraphs which follow.

The value of a study of Arabic is indisputable; for those who wish to devote more time to it than at present, the study of Italian in the upper elementary classes (4 and 5) and in the middle schools, should be reduced. Thus a child destined for

1/ For example, in a monograph by Professor Mario Maino, his bibliography lists 55 books and articles.

2/ See Appendix C, The Somali Language.
theological studies or the legal profession, or as an Arabic interpreter-translator or codifier, or who intended to work for a scholarship or bursary in an Arab university (in Arabic subjects) would greatly benefit. The child leaving school after two or three years would be no worse off than he is now. To some extent this choice is already available, but it needs more emphatic treatment.

A fuller knowledge of Italian will be indispensable to another section of the present generation, not so much for a "self-contained" elementary education as for those who, on proceeding to a middle school, do not decide to take higher Arabic studies. Such children should devote more time to Italian in elementary classes 4 and 5 and in the lower middle school.

Lastly, those with a special career to follow, for which study outside the country in centres where technical and university training is not given in Italian or Arabic, should be given the opportunity of studying one other foreign language in the middle school. In the Italian Middle School this option is already given, either English or French being learnt. In the Lycee, on the classical side, Latin is also taught, but this hardly enters into the argument and is already available for Somali who wish to follow an academic career in Italian schools; if any Somali does so, he should naturally begin his schooling in one of the Italian elementary schools which are open to the Somali.

In a review of existing conditions further reference to the Somali language is not necessary (since nothing has been done), except to state that in most parts of Africa, language adjustments have to be made, and although the use of the vernacular is everywhere recommended for the earlier years of schooling, it is now admitted almost universally that the teaching of a written and printed language should not be undertaken until a printed literature exists. Before the use of a printed vernacular is introduced into the syllabus of a school or an adult class, a Language Bureau needs to be set up; readers, books of stories, simple handbooks and, if possible, a vernacular newspaper, should be written. While in many cases the Bible, or parts of the Gospels, are the first literature; in Somaliland, which is entirely Moslem, this would not be the case.

9. Position of the Catholic Mission

Both here and elsewhere these Christian Missions of all denominations have been pioneers in educational work, whether they were successful in proselytising or not. For such schools, which were classified as assisted schools or unassisted schools, the various educational codes prescribed:

a. government right of entry for inspections,

b. certain minimal standards of accommodation, sanitation and playground space,

c. the subjects of instruction and the language of instruction,

d. a grading as a result of inspection, with the ultimate award of percentage maintenance grants appropriate to the grade and applied to the salaries of teachers and other recurrent expenditure,

e. building grants.
In Somaliland when public education was initiated, a grant was given to Mission Schools, and today all these schools and their staffs have been taken over by the Administration, which pays grants of several kinds to the Mission Authority. A per capita grant is paid for each Mission teacher and special grants are paid to the School for Artisans and the boarding schools for orphans and for half-castes (maticci). Mission teachers consist of priests and nuns; the sisters' work is particularly valuable in schools for girls and young women. In some cases the whole school is staffed by Mission teachers; in other schools Mission teachers take certain classes. This includes the evening classes.

With regard to textbooks for schools staffed entirely by the Mission, since in effect all schools are AFIS schools with the exception of a Hindu-Pakistan School, a Hindu-Moslem School and classes run by Women's guilds, political parties, etc. (of which little seems to be known), the supply of textbooks and other materials is the same as for all other schools; that is, it is deficient.

10. Subjects of Instructions

Elementary Schools

A detailed syllabus for each subject has been prepared by AFIS in draft form and discussed by the Central Education Committee. Each section is preceded by an introduction which explains the place of the subject in the school curriculum, the benefits to be derived from its study, the stages of instruction, special difficulties likely to be encountered and in some cases suggestions as to methods to be employed in teaching. The syllabuses are detailed and in general well constructed.

The subject so far dealt with include:

The religion of Islam
The Arabic language
The Italian language
Arithmetic and Geometry
Science and Hygiene
Geography
History
Civics (Moral and Civic Instruction)

When these outlines are printed and distributed to schools, it will be necessary to follow up the intention during inspection and to explain to the present teaching body (including, of course, Italian teachers) during refresher courses the greater part of the new material. It will also be necessary to ensure that all teachers have sufficient textbooks.
or reference books to cover the subjects and that their methods of teaching are directed to bringing all subjects to life. Perhaps the most difficult subject of all will be that called Science and Hygiene; it will fail if taught by rule-of-thumb methods, and teachers who have not themselves been taught in a practical way will merely see in the syllabus the need to teach a lot of new words and a number of isolated facts. However, Practical Sections attached to each year's classwork are directed to the keeping clean of the schoolrooms, latrines and compound, personal hygiene, and later to first aid, use of the clinical thermometer, the organisation of a school museum, etc.

What is lacking is any intention to introduce Nature Study as a practical subject. There is no emphasis on the great possibilities of arousing interest in the growth of seeds, by planting them appropriately at different times and observing the growth of root and shoot, the developmental stages of insects and mosquitoes, the habits of observation which can be so easily cultivated in this way, and the material which these opportunities give for original written work by the children. Since not one of these things has yet been shown to the teachers, no doubt a large book would be required to explain it. Or of course the inclusion of Nature Study in the Teachers' Course.

In general the emphasis on health is excellent, but the Science syllabus gives the teacher who talks too much opportunity to talk even more.

With regard to the syllabus as a whole, covering the elementary school, the middle schools and the various vocational schools, to comment fairly on them would require a very careful study of them (in English translation), and to make useful constructive suggestions would involve much study and much discussion, the assembling of suitable textbooks, and the planning of method courses.1/ Throughout one would have to bear in mind that practically the whole content of formal instruction is being taught in a foreign language, either by a foreigner (Italian) or a teacher using a language foreign to him. Either the pupil or the teacher (possibly both) is working at a disadvantage.

11. School Terms

Throughout town and country the school year runs from 1 July to 31 March,2/ and school tests, leaving examinations and entrance examinations are held in the holiday period, 1 April to 30 June.

At first sight a term of nine months seems excessive, but examination of the calendar for 1951-52 shows 32 Saints' days and public holidays, in addition to 28 Fridays on which Somali type schools are closed.

1/ The general plan (Piano Quinquennale) was given to the Mission after their work was completed. No discussion was possible.

2/ The schools in Midjurtein open on 1 October instead of 1 July and are open for about eight months.
The holiday period (into which are fitted certain examinations and refresher courses for teachers) is the rainy season, during which regular attendance would be unlikely or at least as erratic as the rains themselves.

This arrangement should certainly be reconsidered when rural schools are planned, and the seasons of principal farm activities will have to become holiday periods to enable children to take their part in their family’s seasonal activities (sowing, weeding and harvesting in the case of agriculture). This may require a further abbreviation of the school term, but it is not anticipated that academic instruction will suffer.1/ 2/

12. The Italian Element

A distinction between Italian type and Somali type schools is brought about, or rather perpetuated, by the choice of languages of instruction. If the Italian elementary schools are open to the Somali, then the reason for the extremely small number which avail themselves of these schools must be that Arabic, which their parents desire them to learn, is not taught in the Italian schools. Since this desire will continue, the present position will continue. In time, no doubt, particularly if Arabic and Italian are made alternatives in the upper elementary classes (a course which is recommended), there will be more applicants for places in the Italian Middle Schools and perhaps in the Upper Elementary Classes also. Furthermore, it is possible that the number of Italian pupils will fall, in future years, in which case the existing provision of classroom accommodation will be sufficient.

At the time of writing, there are some 25 Italian teachers working in Somali elementary schools,2/ and according to the draft plan, it is proposed to employ a further 100 Italian teachers (cumulative over a five year period), as well as 43 extra Arabs and 130 extra Somali. This is part of a plan to develop mass education for the sedentary communities. It appears to mean that in all areas where permanent schools can be conveniently placed, more and more Italian will be taught. The cost in personnel would be very large indeed and disproportionate to the cultural value of a policy of this kind. From a utilitarian point of view, the results are also questionable. For the production of an Italian speaking elite, possibly the vocational schools would benefit by the wider field of selection. For the bulk of the children and adults to benefit from this plan, the results would be rather in doubt. The supply of sufficient textbooks of the right kind is also problematic.

1/ The few schools now situated in rural areas follow the same nine-month term.
2/ One very successful follow-up school was opened for three terms of one month each in the year.
3/ See Appendix B.
B. TECHNICAL TRAINING

1. Scuola Artigianato Typo Somalo

This is a school with great possibilities of satisfactorily filling an urgent need. The buildings and equipment have been provided by the Catholic Mission; sixty boys attend for technical instruction in woodwork and metal work supervised by the director and two Italian craftsmen. These classes are held in the morning, between 6:30 a.m. and 11:30 a.m., and the records show punctuality and regular attendance. In the evening the pupils attend elementary classes conducted in the same building.

The equipment is on a generous and varied scale, and in the wood and metal work shops are to be found a forge, two lathes, power-driven drills, saws, milling machines, etc. Most of the machinery is very old and needs replacing; sets of carpentry tools are badly needed, but the lay-out of the workshops is such that, with further equipment, a part as yet unused could accommodate a further 80 pupils, enabling up to 150 pupils to work simultaneously. It would also be possible to hold classes for adults quite separately from the boys, and it was suggested by us that courses for teachers should find a place there.

Since this workshop also makes and repairs nearly all the fittings for Mission buildings throughout the country, there is in fact a process resembling apprenticeship proceeding side by side with the elementary exercises usually seen in a junior technical school. In one section, with inspection pits and an overhead gantry, may be seen lorries and cars undergoing complete overhaul; in another furniture and panelled doors are being made and repaired.

This school is referred to both in the Report to the General Assembly (period April 1950-December 1950) and in the long-term plan of education produced by AFIS during the visit of the Technical Mission. It is therein regarded as capable of developing into a secondary school.¹

It is very much to be hoped that an agreed policy can be arrived at over the real future of this school.

2. Scuola di Specialisti Aeronautistica

This is an evening technical school which was built, furnished and equipped with a sum of money contributed by the service and civilian personnel of the Somaliland Aeronautics Service who subsequently presented to AFIS on the condition that it was to be used solely for the training of personnel intended for civil and military aviation in Somaliland.

¹ It is at present an elementary school of a vocational type; the director believes that it takes ten years to make a skilled joiner or fitter and that their training should commence when young. In time, no doubt, the pupils will consist only of those who have completed their primary schooling, and their age at entry will be 13 or 14. Meanwhile this school resembles certain of the senior schools, reorganized on Hadow lines, which gave a thorough grounding to boys most of whom left school at 14 1/2 to be apprenticed to trades.
The training given in this school is intended to provide personnel for the various specialized services connected with aviation:

- Motor mechanics
- Fitters
- Radio operators
- Meteorologists

The trainees will be employed partly in airports, partly in workshops, partly in various services both on land and in the air, for civil air lines and also for the Military Aeronautics Services.

The first course was held in 1950-51 and was of an experimental nature, and a new course, taking pupils with a full elementary school education, is expected to commence in October or November 1951. The courses are intended to last for not less than two years and the entry limited to 20 students annually in each of the four subjects. The Administration, in reply to questions on this subject, state that for some time such trained personnel will find employment. There is the intention to replace Italian personnel with Somali, and a development and improvement of a network of airports and landing grounds is foreseen for both internal and international purposes, all requiring a full complement of trained personnel.

3. Other Training

Various forms of training or apprenticeship are found in a veterinary station, the Public Works Department (Genio Civile), in hospitals and government offices generally, all of which will become formalized into vocational training as the educational system develops.

Apprenticeship to craftsmen and traders is of course widespread, but the number of crafts practised is very limited, and it does not seem that much can be done to improve them. Indeed it has been said that in other parts of Africa any attempt to develop such crafts has been rendered useless by the simultaneous change in native taste: the customer starts to buy enamel ware, and the carved calabash becomes a curiosity for tourists. It is worth noting that in towns in another part of Africa (where the hours of work in the primary schools covered both morning and afternoon), a system was tried out by which pupils could spend part of the day as apprentices to recognized trades, and, subject to a good report from both school and employer, could obtain the elementary school certificate. At present in Somaliland this system does, in fact, exist in those places where a pupil works all day and goes to an evening class at night. But the ground covered in schoolwork is very much less.

4. Higher Technical Training

With the exception of a two-year course for hospital dressers which is about to commence, there cannot yet be said to be any technical training to a high standard, but the work of the vocational secondary schools should enable the authorities to decide whether such training (which is expensive) could
best be given by the development of such institutions or by training outside Somaliland.

C. FUNDAMENTAL EDUCATION

In the five-year plan for the development of education in Somaliland which has been prepared by the Education Section in draft form, one section is devoted to Elementary Schools of Somali Type for the Nomadic Tribes.

Fundamental education has not yet been classified as one of the responsibilities of the Education Branch, but is to be dealt with by the Section of Radio, Films and Newspapers. It would, of course, be impossible to foresee any development which would result in five years in the opening of elementary schools of Somali type for nomadic tribes. Therefore comment on this section of the plan, apart from comment on experiment in this direction which AFIS proposed to make in 1952-53, is directed to the mode of approaching the problem as demonstrated by this draft plan.

No mention is made of the adult, or parent, except in so far as his movements, determined by the search for pasturage, introduces problems not met with in towns. The first possibility discussed is that of building residential schools. This project is dismissed as impracticable owing to the cost of building, the cost of maintenance (since no pupils would stay if they had to pay fees) and the difficulties of housing and feeding the staff. Pursuing this train of thought, it is judged that the location of such schools for the children of nomads in Mogadishu (where the difficulties listed above would be reduced) would add to the already large school population, and moreover would tend to influence the children to remain in Mogadishu where they would become unemployable. As an alternative, plans are discussed for mobile schools which would follow tribes around during their migrations. An appreciation of the difficulties then follows, but underestimates the mobility of the tribes.

For example, what is spoken of as an area of seasonal concentration frequently measures in fact 150 kilometres by 80 kilometres, and a seasonal migration on the part of the tribe taking place in more than one direction may result in a journey of 400 kilometres and lasting many weeks.

There is no indication of a policy on:

1. The nationality of the teachers.
2. The special training of the teachers.
3. The languages of instruction.
4. The syllabus or course to be followed.
5. The objective to which the above are to be directed.

A section of this Report, pp. 52, 60, gives suggestions for the study of the background against which a programme of fundamental education should be planned, by which alone a motive and objective can be determined; and it is suggested that all plans for the provisions for the nomads of the ordinary Somali Type Elementary School should be postponed, and even the experiment suggested for next year
should await clarification of the objectives and consideration of the underlying principles of fundamental education. One thing is certain: to put a nomad child in school, whether near or far from his family, is to deprive him of fundamental education in the home.

SECTION II  RECOMMENDATIONS

A. ADMINISTRATION

Chain of responsibility. Recommendations made during the stay of the Mission in Somaliland have been included in the five-year educational plan prepared by AFIS with some important alterations. The additional personnel for administration and inspection will be required whatever development is finally agreed upon. They are in fact required now. The recommendations were made in the expectation that the services of technical experts and advisers and teams would be requested from the appropriate agencies (see Section R. United Nations - Technical Assistance). Such teams are needed now.

The addition of a deputy director (Vice Capo Ufficio in the five-year plan) was recommended so that there should be continuity, division of labour and a chance for the head of the service or his deputy to travel and get to know the country, the people and the personnel.

It is recommended:

1. that certain key personnel should be sent on visits to tropical countries to see systems of education based on many years of experience. (See 3 below), and that the subsequent detailed planning should follow such visits.

2. that in augmenting staff by recruitment, whether Italian or indigenous, due attention be paid to previous appropriate experience in the field, and to age. To ensure continuity, it is necessary to select personnel of such age that they will not all "nature" at the same time, not all be ready for promotion in the same year and later for retirement. Short-contract appointments for non-indigenous personnel should be considered only to initiate a highly technical phase of development, and then only when the work can be completed by them, or personnel trained to take over.

3. that visual records of all institutions, inspections, etc. be kept in prominent view in the chief's office.

B. PRIMARY EDUCATION: ELEMENTARY SCHOOLS FOR CHILDREN

It is recommended that:

1. as a basic condition for establishing more schools of the present type, the systems of training and inspection should be improved and the re-
quirements of existing schools (text-books in particular) should be met, and the conception of a rural school should be more fully developed with a self-contained programme for those who do not proceed with secondary education.

2. the existing primary schools be intensively inspected, and if a team of competent inspectors can be found, they should be put on a fulltime job of improving the standard of teaching and ensuring that every pupil has sufficient text-books and that every teacher has reference books and knows how to use them. With the school year half expired this will certainly not be accomplished before the end of 1951/52.1

3. the curriculum should be overhauled and the teaching of basic science should be included in the subject matter of the teacher's course.

4. remembering that all men are naturally imitative, the correct methods of teaching such basic science in the training school should receive the greatest possible emphasis. Syllabuses and methods used in Kenya and the Sudan should be studied and discussed. Ready-made apparatus should be avoided and the syllabus should be specially written in expanded form, pending the preparation of a booklet. Cause and effect should be observed by the children, as a result of their individual or group experiments.2

5. Choice of languages. At the earliest possible stage in their schooling a choice of languages should be offered to the pupils of the "town schools". This will simplify the selection of "the elite", since an absolute essential of any programme of further education (secondary or vocational) is that the pupil fully understands the language of instruction. (See also Section J. Languages).

6. Games. It is recommended that:

a. some provision be made in every school for regular times for free play.

b. playgrounds, especially in Mogadishu, be constructed for this purpose.

1/ This inspectorate should be centralized, and be closely linked with the teacher training school (vide Bakt er Ruda).

2/ The only science apparatus seen was that housed in the Liceo. It consists of demonstration "set-pieces", and there was neither equipment nor space for individual experiment. In no primary school of any type were there collections of growing plants, germinating seeds, etc., and no balances, measures, vessels, tubing, mirrors, simple batteries, magnets, etc.

3/ The word experiment in such a connection has come to mean the repetition by the pupil of experiments with things and forces systematised to cover certain fields.
c. organised games be taught through the training schools and inspectors.

7. the inspection report form in use for primary schools should contain more headings. This not only facilitates routine work, but enables progress or deterioration to be followed in successive reports. At present the "General Remarks" column constitutes the bulk of the report.

8. each head teacher should keep a school diary, and also a "duplicate book" in which visiting officials of certain departments (education, administration, public health and - in rural schools - agriculture) should be asked to make comments and suggestions, tearing out and keeping the original and leaving the carbon copy in the book.

9. the two semi-private, or assisted schools, Hindu-Pakistan, and Hindu-Moslem, represent an important minority, and means should be found to improve them. This is a case where the Asian community might do more, and the grant or other assistance be based on their effort.

10. Schooling for the non-Somali elements in Brava and outer-Juba should be studied. The former are Moslem but have a special language. The latter are Swahili speaking, and their culture and religion appear to differ from that of other areas. The Bajuni of the islands and mainland may also need special provision.

C. SECONDARY EDUCATION

It is important to separate post-primary schooling into schools for children and schools for adults.

1. Secondary Schools for Children

It is recommended that:

a. there should be middle schools given a six-year course (to be increased later to eight years).

b. the aim should be to select boys from the elementary schools' examination and headmasters' reports for these middle schools.

/ Suitable books on this subject can be obtained in the English language. Not only net-ball, basketball, rounders, hand-ball, etc., but the activity games and competitive team games given in the H.M.S.O. manual should be introduced. The apparatus for the latter is very simple: ropes, chalk and bean-bags (i.e., a small bag of beans in place of a ball).

/ A visit to the schools for boys and girls from the Hindu and Pakistan communities in Nairobi would be fruitful. One of these is the largest of its kind in Africa. The Hindi-Pakistan elements in Kismayo should be encouraged to support a school.
c. Handwork should be included in the syllabus to consist of woodwork and metalwork, using proper workshop equipment, with qualified teachers.

d. There should be a division between lower middle and upper middle, with a passing out examination for boys about to enter apprenticeship or departmental training, after completing the three years: the lower middle curriculum (later four years).

e. The upper middle should be regarded as the point of entry to higher professional training.

f. Specialisation on one foreign language as the language of instruction should commence at the latest in Lower Middle Form. Provision could be made for exceptions to this rule.

g. The languages should be Arabic, Italian and English.

h. The Italian "stream" should attend the Gymnasium and the Lycée (Italian type secondary education) as being the best way of learning the Italian language thoroughly.

i. For posts of the type listed below, an education and professional training overseas will be required; for this, an upper middle school education (Somali) in Somaliland is required:

   Administration Officers  Middle School Teachers  and Specialist Teachers (Music, Art, Physical Training, Science, Languages)

   Medical Officers  Civil Engineers

   Agricultural Officers  Veterinary Officers

j. For posts of the type listed below, a lower middle school (Somali education) is necessary; they include the assistant, demonstrator and foreman grades, who should obtain their training at departmental centres:

1/ The terminology used in the Sudan is 4 years elementary, 4 years middle and 4 years secondary. This has much to recommend it.

2/ Later it is recommended that this specialisation should be in elementary 5 or 4.

3/ Recommended as giving entry to higher education in Beirut, Cairo, Khartoum, Nairobi, Great Britain and U.S.A.

4/ Since the proper staffing of a Somali Upper Middle School presents difficulties and the numbers involved will be small, it is debatable whether or not a boy should take his upper middle schooling in the country where he is to receive professional training.
Secretaries  Veterinary Assistants
Sanitary & Medical Elemental School
Assistants  Teachers
Agricultural Assistants  Civilian employments

k. for posts of the kind listed below, an elementary school education (Somali) should be followed by evening classes and, by arrangement with employers or by legal statute, continuation schooling during working hours, this being optional:

Artisans  Office Boys
Shop Assistants  Painters & Decorators

l. this continuation schooling should provide junior technical school in several forms:

woodwork  commercial subjects
metalwork  welding, coppersmithing
mechanical drawing  and blacksmithing.

m. since some of the various courses for which AFIS proposes to make provision do not appear to fall within the scope of the education branch, a clearer demarcation of the respective responsibilities of the departments (such as medical, agricultural, etc.) vis-a-vis the education branch, is needed.1

n. syllabuses for the educational part of manual work should be differentiated from syllabuses for training. The former should be planned to give a sense of fulfilment, to satisfy the mechanical and creative skills present in most boys, to serve as an evocational stimulus and help a boy to decide on his career, and for many other educational reasons. The educational course in manual work should be of progressive difficulty; the skills so acquired may find immediate application in group projects. A follow-up in evening classes ("polytechnic") would give scope for handymen classes, crafts and hobbies.

o. certain basic subjects should be included in the syllabus of the Lower Middle School (Somali), particularly civics, a language, mathematics, simple science (experimental) and physical training. Manual work and basic science should account for at least 25 per cent of the allocation of periods.

p. in order to cover the ground, school hours in the Lower Middle

1 At present an "ad hoc" training in skinning is bracketed with medical assistants' training, etc. Both these are forms of training rather than education. They call for widely different temperaments and backgrounds, and they are not matters with which the branch need concern itself, since they are training rather than education.
c. Handwork should be included in the syllabus to consist of woodwork and metalwork, using proper workshop equipment, with qualified teachers.

d. there should be a division between lower middle and upper middle, with a passing out examination for boys about to enter apprenticeship or departmental training, after completing the three years of the lower middle curriculum. (later four years).

e. the upper middle\textsuperscript{1} should be regarded as the point of entry to higher professional training.

f. specialisation on one foreign language as the language of instruction should commence at the latest\textsuperscript{2} in Lower Middle Form I. Provision could be made for exceptions to this rule.

g. the languages should be Arabic, Italian and English.\textsuperscript{3}

h. the Italian "stream" should attend the Gymnasium and the Lyceum (Italian type secondary education) as being the best way of learning the Italian language thoroughly.

i. for posts of the type listed below, an education and professional training overseas will be required; for this, an upper middle school education (Somali) in Somaliland\textsuperscript{4} is required:

<table>
<thead>
<tr>
<th>Administration Officers</th>
<th>Middle School Teachers</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>and Specialist Teachers (Music, Art, Physical Training, Science, Languages)</td>
</tr>
<tr>
<td>Medical Officers</td>
<td>Civil Engineers</td>
</tr>
<tr>
<td>Agricultural Officers</td>
<td>Veterinary Officers</td>
</tr>
</tbody>
</table>

j. for posts of the type listed below, a lower middle school (Somali) education is necessary; they include the assistant, demonstrator and foreman grades, who should obtain their training at departmental centres:

\textsuperscript{1} The terminology used in the Sudan is 4 years elementary, 4 years middle and 4 years secondary. This has much to recommend it.

\textsuperscript{2} Later it is recommended that this specialisation should be in elementary 5 or 4.

\textsuperscript{3} Recommended as giving entry to higher education in Beirut, Cairo, Khartoum, Nairobi, Great Britain and U.S.A.

\textsuperscript{4} Since the proper staffing of a Somali Upper Middle School presents difficulties and the numbers involved will be small, it is debatable whether or not a boy should take his upper middle schooling in the country where he is to receive professional training.
Secretaries
Sanitary & Medical Assistants
Agricultural Assistants
Veterinary Assistants
Elementary School Teachers
Civilian employments

k. for posts of the kind listed below, an elementary school education (Somali) should be followed by evening classes and, by arrangement with employers or by legal statute, continuation schooling during working hours, this being optional:

Artisans
Shop Assistants
Office Boys
Painters & Decorators

l. this continuation schooling should provide junior technical school in several forms:

- woodwork
- metalwork
- mechanical drawing
- commercial subjects
- welding, coppersmithing
- and blacksmithing.

m. since some of the various courses for which AFIS proposes to make provision do not appear to fall within the scope of the education branch, a clearer demarcation of the respective responsibilities of the departments (such as medical, agricultural, etc.) vis a vis the education branch, is needed.

n. syllabuses for the educational part of manual work should be differentiated from syllabuses for training. The former should be planned to give a sense of fulfilment, to satisfy the mechanical and creative skills present in most boys, to serve as an evocational stimulus and help a boy to decide on his career, and for many other educational reasons. The educational course in manual work should be of progressive difficulty; the skills so acquired may find immediate application in group projects. A follow-up in evening classes ("polytechnic") would give scope for handymen classes, crafts and hobbies.

o. certain basic subjects should be included in the syllabus of the Lower Middle School (Somali), particularly civics, a language, mathematics, simple science (experimental) and physical training. Manual work and basic science should account for at least 25 per cent of the allocation of periods.

p. in order to cover the ground, school hours in the Lower Middle

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1/ At present an "ad hoc" training in skinning is bracketed with medical assistants' training, etc. Both these are forms of training rather than education. They call for widely different temperaments and backgrounds, and they are not matters with which the branch need concern itself, since they are training rather than education.
should be not less than 30 teaching periods\textsuperscript{1}, and there should also be homework. In general, a teaching period of 40-45 minutes if classes are kept small (maximum 20) should be sufficient.

q. in the Upper Middle School (Somali), science periods should be increased, and manual work omitted. A hobbies period could be introduced to allow for supervised drawing, painting and simple constructional work.

r. the post-primary stage of rural education should be differently planned, but entry from country schools to the lower middle school, by quota, is essential.

s. a boarding school for them is essential, and the appointment of a Somali housemaster or deputy head of such a school should be made.

t. the importance of a thorough knowledge of Arabic to those pupils who specialise in it is stressed; until the Somali language is developed (and this development is long overdue), Arabic is bound to be the language of the more contemplative element. As a foreign language (used as medium of instruction) it is one which only the exceptional boy (with his subsistence assured) can thoroughly master. This must be made clear to all concerned, and the reason for the apparent restriction on advanced study clearly stated viz. that the language is too precious to be half-taught to large classes.

D. VOCATIONAL SCHOOLS\textsuperscript{2}

It is recommended that:

a. those should be regarded as providing appropriate training in certain techniques.

b. the difference between education and training be more carefully defined: elementary schooling for children and adults is education; a general preparatory course in workshop practice, accompanied by lessons in mathematics, language and civics, is also education. The preparation of hides and skins, weaving and even the teaching of medical and veterinary assistants are all vocational training (in Italian "professional").

c. since effective training must be based on primary schooling, the

\textsuperscript{1} At present each period is one hour, and there are about 25 periods per week. Some of the 30 periods would be double periods (1\frac{1}{2} hours) e.g. science and manual work. Physical training and religion \frac{1}{2} period each daily.

\textsuperscript{2} These recommendations which follow are not altogether incompatible with the AFIS five-year plan which has been produced in parallel with this report.
latter should in most cases aim to

i. at giving adequate grounding for training

ii. at being linked with subsequent education, whether in the form of studies accompanying the training mentioned above (the humanities and mathematics) or in evening classes or in day continuation classes (in the employer's time).

d. any specialised training should provide for three classes of people:

i. the workman, who carries out an improved technique in farming, care of livestock, sanitary duties, building, carpentry, etc. His or her field of responsibility is a modest one. The sum total of such improvement is immense. Sometimes, his schooling may be acquired in evening classes.

ii. the foreman who is able to demonstrate the value of improved techniques; the rural school teacher, and, at this stage, the primary school teacher, in the town falls in this category. The farm-demonstrator, the indigenous assistant, the industrial foreman and many others go to make up this group. In this category many are already undergoing apprenticeship to public and private concerns. Some, if not all of his post-primary education will have to be in evening classes.

iii. the professional man or woman partly or wholly educated and trained "overseas" (i.e. in another part of Africa or in Italy or elsewhere). For him a sound basis of secondary education is required; this may not be obtainable in Somaliland, in which case it will have to be acquired in the country in which he is to complete his university training.

1. School For Artisans.

It is recommended that:

a. an agreement be reached as soon as possible over the direction of the school, its syllabus and its future. The centralisation of such training in Mogadishu is at this stage essential.

1/ - and not to the training of an elite only, nor to a mere combat of an alphabetism.

2/ At the present time this level of training available for the Somali represents the top; it will be the equivalent of the elite referred to in APIS five-year plan until secondary schooling is firmly established.

3/ For this grade, bursaries will be needed both for middle, high or secondary schooling and also for professional training at a university or technical college. It may well be 15 years before such a level is reached.
b. since it is (relatively speaking) a junior technical school, it should continue this activity, and the elementary school which is an integral part of it should continue on the same lines as at present, and be amply supplied with textbooks, if necessary on loan to pupils.

c. that further development should include a proper scale of equipment of bench tools.

d. that new machinery should be obtained.

e. that any other developments\(^1\) such as senior technical school, teachers' classes, special classes in electrical and other techniques should be developed under expert control, and that age, qualifications, length of course, etc. should be determined by a technical school committee on which both the Mission and AFIS should be represented, and if possible a technical expert provided by UNESCO. Evening and continuation classes should be considered.

f. that the proposed establishment of a boarding school for trainees from the country should be pursued with due care to avoid uprooting; if a demand for such men is clear, there should be a quota of admission by regions and at first a guarantee from the pupil that he would work for a period in the region.\(^2\)

g. that the opening and equipping of simple workshops under expert supervision in rural districts should be considered. (They could be linked with (f) above to provide a self-contained handyman's course in the rural elementary school from which some pupils would form the quota for a senior technical school.) These might be considered part of adult education.

2. School of Aeronautics

This school appears to fill a need; in its present form by admitting men as pupils it is a form of part-time adult vocational education. It is considered that better results will follow when pupils are available from the secondary schools. It is not in fact part of the school system but is a form of departmental training of a para-military nature. Consideration should be given to making fuller use of the fine building in which the School of Aeronautics works in the evenings only.

\(^1\) The workshop space available is adequate for a very great expansion.

\(^2\) It should be noted that in the Sudan as an interim measure, pupils at the remarkably fine technical school in Khartoum are on the books of departments which pay them a subsistence allowance.
E. TEACHER TRAINING. (The period is one for emergency measures; this is recognised by AFIS.)

It is recommended that:

1. far more attention be paid to the teaching of method (by example as well as in special lessons).

2. at least one of the new inspectors should be aware of the modern methods of teaching in infants' classes (5 to 7 years).

3. these methods, involving activity and developing self-reliance, should be carried on or followed up by similar methods in the junior classes: for example, in distinguishing between teaching new matter (chalk and talk) and individual work (including revision).

4. teachers in training should be properly supervised and frequently visited in their teaching practice; a roster should be kept of all such visits, and progress recorded, and the teacher informed of good and bad points in his work.

5. as a result of the above, unsuitable teachers should be weeded out.

6. teachers in training should be taught to make notes of lessons, and these should be corrected.

7. In view of the heavy programme now carried out in training, either the course should be lengthened, the lectures improved, or the hours of teaching practice for the students reduced. (The last named is the course recommended, provided that the second point can be achieved as well).

8. at all stages in their training and career more books should be provided for teachers and a reference and lending library established.

9. the teaching of games should be included on the syllabus. The teachers themselves should play these games, and be given a booklet of games.

10. the training of Italian teachers should not be overlooked; they should be subject to inspection, chiefly of an advisory nature, and refresher courses should be arranged. These might be regional, attended by a comparatively small number. (The Inspectorate will also need training).

11. it might be considered whether a bonus could be given for Italian teachers who study the Somali language. An examining board should be set up for this, advised by the permanent language bureau.

12. Similarly the training of administrative staff, both Italian and Somali, should not be overlooked. Part of this training should be in the form

1/ In some tropical dependencies a double quota is admitted and 50 per cent of the intake quickly weeded out and repatriated.
of visits to Kenya and Khartoum with which this Mission has already made the initial contacts and had very favourable and encouraging discussions.

13. the Central Inspectorate (which is far more important than the regional inspectors who appear in fact to be redundant) should make the training school their headquarters. In some cases it may be best to make them interchangeable with the teaching staff.

14. teachers in training and pupil teachers must be differentiated. 1/

F. ADULT EDUCATION

It is recommended that:

1. a thorough inspection of adult education classes should be made without delay and a committee appointed to discuss the findings.

2. a better grading by accomplishment and by speed of work is required; the tempo should be quickened and the brighter students given a chance.

3. since the classes are far too large, they should be reduced to 25 students or less. This could be done by holding fewer classes per student per week (e.g. five instead of six or four instead of five).

4. the complete absence of all texts except Alba Radiosa and a grammar

1/ Among the recommendations made verbally in the course of the visit of the Technical Assistance Mission, were (a) that there should be more teaching practice for teachers in training, and (b) that, in view of the overcrowding in children's elementary and in adult classes, a system of pupil-teaching should be considered. With regard to the second of these our intention was that particularly in a one-teacher school, a bright boy should be asked to help in supervisory work, and simple teaching and correcting in the lower classes, and in return have extra tuition out of school. The choosing of such boys should be left to the local directors. This "pupil-teaching" is in fact used in many African schools. It was also suggested that adults should be used in exactly the same way in order to increase the number of classes and reduce their size. There are many modifications of this, one being to let pupils work in pairs.
book be treated as a matter needing most urgent rectification.1/

5. teachers should be encouraged to use direct methods, dramatization, newspapers, etc. and, with smaller and better graded classes, to introduce real life situations.

6. the teaching of other subjects, in addition to Arabic, Italian and arithmetic, should be considered by the Central School Committee.2/

7. closer contact be made with classes run by men's and women's clubs, as soon as material help and skilled advice are available from AFIS sources.3/

8. lending and reference libraries and reading rooms be opened, particularly in towns with over 100 regular evening students.4/

9. adult education in rural areas be developed following a pilot project. (See Section N. Rural Schools and Section R. United Nations - Technical Assistance.)

1/ Visits to the literature bureau in Nairobi and Khartoum will show the material available. This material is being continually revised and added to. In particular, the Arabic books and booklets produced by the Publications Bureau, Khartoum are very strongly recommended for children, adults and "follow-up". They are quite the best of their kind.

2/ Simple bookkeeping, handyman courses, discussion groups, club leaders course, first aid, music, etc.

3/ and new clubs should be planned and opened under trained leaders.

4/ The inclusion of a full-time librarian in the chain of command has already been suggested. In addition, he should function as text-book adviser and should visit Nairobi and Khartoum.
G. RELIGIOUS INSTRUCTION

This subject should be developed. 1/

H. HEALTH, NATURE STUDY AND HYGIENE

1. The school health service proposed by this Technical Assistance Mission, and agreed to in principle, had already been in operation in the form of medical inspections. These appear to need regularising, and putting under a central direction. The provision of free lunches in certain areas where there is under-nourishment is good; it is considered that vital statistics should be obtained.

2. Nature study needs development, and this requires its inclusion in the training school. The subject must be thoroughly practical and since no recognition of this was to be seen at any level, it may be

1/ Here too, much might be learnt from Bakt er Ruda. It is considered that the strict seclusion of this part of character building may be unwise. The practical application of ethical principles requires in a day school a definite plan. The impression left on the Technical Assistance Mission is that there is too little scope in all schools for training in "religion in daily life". The civics programme about to be added to the syllabus should remedy this but may need reinforcement by suitable books.

The following points are taken from a Bakt er Ruda letter:

A boy's natural restlessness is explained by a love of doing and making, and this urge is best satisfied if the objective is immediate, and if his interest in people in his environment are taken into account. His development requires (1) development of character through perseverance, habits of efficiency, lively thoughtfulness, loyalty and a ready helpfulness, (2) development of a healthy body and (3) development of knowledge and skill in the basic studies of reading, writing and arithmetic and the use of his hands. The means used are the example of the teacher, the atmosphere of the school, games and class subjects. These aims can be achieved as follows.

Character development: perseverance is won by setting up goals to be attained and by gradually lengthening the duration of effort; efficiency, by school discipline, by enforcing punctuality, by periodic tests of attainment; thoughtfulness, by encouraging the boy to ask questions, by comparison of his own with other peoples' ways of living, and by the wise use of books; loyalty helpfulness through group work, handiwork, games, gradening and play-acting.

These points are selected from a fuller list, and acknowledgement is due to the Director of Education, Khartoum, for permission to draw from them.
necessary to recruit a really good biologist to develop this very important subject.¹

3. Washing and drinking facilities are usually provided; where this provision is not made the reports should show it and the omission be rectified.

I. THE EDUCATION OF GIRLS AND WOMEN

A very good start having been made in this specialised form of education, and the confidence of the parents enlisted, the time has come to plan the content and method by employing an expert in these matters. Provision has been made for this in the "chain of command" which the five-year plan now includes. It must be emphasised that the holder of this appointment should immediately make visits to certain recommended areas, and this should be done very shortly after taking up the appointment or even before going to Somaliland.²

A knowledge of Arabic, a training in domestic science, experience in women's clubs, and natural gifts including a capacity for organisation and a sense of vocation are all desirable qualities for this post.

J. LANGUAGES

The Somali and Arabic Languages are written about in the appendix to this report. It is recommended that:

1. a language bureau should be set up coordinating a number of part-time advisers.

2. regular meetings should be held.

3. close touch should be maintained with other African territories.

4. the advice of UNESCO should be continually sought.

5. this bureau should provide an examination board which will produce a syllabus for language examinations (Italian, Arabic, Somali and possibly English) and arrange for written and oral examinations.

Professor Moreno, a well know specialist, would be glad to help the local government with advice and suggestions as he has done until now in an unofficial capacity. The government also has the great advantage of having Professor Mario Maino at hand. It is to be regretted that his remarkable work in this field has not attracted the attention of the AFIS sooner, although it aroused great interest at

¹ Ample literature on elementary science, biology and nature study is available in English, specially written for tropical Africa.

² The whole question of this and other visits has been thoroughly discussed in Khartoum. (See Section B. Public Opinion, for suggestions.)
the University of London. There are persons of Somali blood and culture who would also be able and willing to work with the bureau. When the proper time comes, the AFIS will be able to fulfill its engagements without difficulty. The importance of this problem and its effect upon fundamental education are obvious.

K. BURSARIES AND FELLOWSHIPS

1. Bursaries or Scholarships for Somaliland

a. It is recommended that information be obtained as soon as possible in this matter. Bursaries to Italy would supposedly be of two kinds, for technical and professional studies or for the humanities; and to qualify for one a boy or girl would probably have to pass through the Italian type schools in Mogadishu.

b. For scholarships to other countries some other form of preparation will be required, and the minimum requirements in a foreign language and basic subjects, including elementary science, will have to be ascertained. It is necessary to consider whether a pupil could not best finish his middle school curriculum in the country of choice, although this would mean selecting him at 11 or 12 years.

c. But other fields of study should not be overlooked, such as club leadership. It is also recommended that AFIS or other bursaries to Nairobi or Khartoum, at an intermediate level, should be considered.

L. NOMADISM AND EDUCATION

It must be emphasised that nomadism is, and will continue to be in very sub-

Professor Dr. Mario Maino is Chief of the Radiology Service at Mogadishu. His personal interest in the Somali has led him to specialize in the problem of Somali linguistics. Professor Maino has already completed the following works:

a. The Somali Language as an Instrument of Professional Teaching, study of the possibility of making a written cultural language of the Somali language.

b. The Somali Language in 1950 and 1951. This very interesting pamphlet contains all the documents which appear during this period.

c. Medical terminology of the Somali language:
   i. Italo-Somali Dictionary; 5,000 words with Italian definitions and translations into Somali.
   ii. Somali-Italian Dictionary; 6,000 words.

Besides these two works, Professor Maino has nearly completed:

a. Somali Proverbs, transcribed in Latin letters with an Italian translation.

b. Short Somali Tales, transcribed in Latin letters with an Italian translation.
stantial measure, an adaptation of social life to the natural resources of the country. Fundamental education should aim at helping the nomad to make a more successful adaptation to his environment than he has yet been able to make.

Certain data are available, and experience in other fields, especially with similar or identical peoples, makes it clear that:

1. education in matters of fundamental importance to the nomad child is in fact carried out by the nomads themselves, intrinsically.

2. extrinsic forms of fundamental education are no substitute for tribal authority.

3. the introduction of these extrinsic forms of education should be entrusted only to people knowing the people and their language.

Further, there are two ways by which results (not necessarily good results) could be achieved:

1. commencing with an experimental plan of fundamental education, limited to one tribe or part of one tribe. Literacy classes to be omitted for lack of literature, but skills of thinking and communicating to be stimulated by records on magnetised tape of the Somali language. This might be started with a pilot project, leading to a form of fundamental education based on the needs of the people.

2. Opening schools giving formal schooling.

Of these, the first is undoubtedly the better.\footnote{It is incorrect to think in a negative sense of the "nomad problem" or "the problem of the nomad" simply because there are administrative difficulties in establishing service contacts with a mobile or semi-mobile population. In spite of a need for caution in establishing these objectives and in introducing fundamental education, it is not meant that individuals from nomadic groups should not receive ample opportunity of training in the technical and administrative skills required in the new Somali state. On the contrary, the nomads (not only because they are in the majority) must not be excluded from a chance to serve that state.} The best atmosphere in which to explore the situation (as yet untouched in Somaliland) would be one in which tribal solidarity was unimpaired and in fact confirmed. The inculcation of a wider notion of responsibility is in itself a long term educational aim and not a political aim.

Fundamental education should be directed, in the first instance, to improving the material conditions of life. But the spiritual life of the nomads and their cohesion in a struggle for survival are the real fundamentals of their being. The substitution of "democracy" for these fundamentals should not be considered, and the improvements desired by others can only be based on adding more security not by taking it away.
The "problem of the nomads" becomes a matter of fulfilling vital needs in the correct order.1/ From the report of the Pastoral Expert it is clear that these are:

1. better marketing of livestock and livestock products, accompanied by improvement in their preparation, to establish an economy which will provide him with a betterment in his standard of living.

2. improvements in water supplies and in the control of grazing to eliminate some of the hazards of livestock production.

The Agricultural Expert reports that it is necessary to improve food crops wherever possible. He also advises that in the low rainfall areas, it must be recognized that a nomadic existence dependent upon livestock is the only way of life possible for the majority of the population, and that apart from the maximum possible use of a few springs available for irrigation and the limited areas near the coast suitable for date palms, no settlements based on agriculture should be attempted.

The poverty of the country is such that every effort should be made to increase efficiency of production, however small or primitive, of crops in depressions or in deltas of tugs, and of the collection, grading and marketing of incense, myrrh, gum arabic and other plant products, while at the same time conserving and improving these available natural resources.

For these economic policies to succeed the Expert on Nomadic Questions states that:

1. the tribal organization must be thoroughly understood.

2. detribalization, even if in some measure inevitable, should not be forced. In most cases the tribal organization is a necessity.

It is recommended that fundamental education at this time be carried on in the

1/ "The needs of the Chinese farmer are so urgent that he must give attention to immediate problems. Rather than the ideals of political democracy, what he wants is food to eat, work to do, and a home where he can raise his children, associate with his loved ones and worship his gods, without fear of disturbance from outside. He has his own ways of calculation. He knows from experience that political arguments and campaigning slogans have failed to fill his rice bowl in the past, and he believes that they are not likely to do so in the future. Progress towards democracy is an important element in social evolution. But if it is to appeal to the Chinese farmer and be of service, it must be associated with, and indeed be a part of, the grass-roots movement which brings him freedom from want and from fear." Training Rural Leaders, FAO Study of Shantan Bailie School, China, 1949. p. 15-16.
above ways¹ and with the objectives of improving economic and social life and rendering it more secure.

M. LIBRARIES AND TRAVELING LIBRARIES: TEXTBOOKS AND PUBLICATIONS

There is urgent need of these. A librarian should be appointed and should visit Nairobi and Khartoum to discuss the techniques used in Africa. The translations of English texts for Africans, into Italian, might be found a quicker and cheaper method than writing the books ab initio. Arabic textbooks used in the Sudan are ideal for use in Somaliland, and would almost certainly be the cheapest source of supply.

N. RURAL SCHOOLS

It is recommended that:

1. two pilot projects in rural education² should be started, one in Area 2 of map in appendix D and one in area 3.

2. both these should be run by experts with previous experience in Africa, who would select the sites.

3. the schools should have a syllabus designed to equip the boys and girls of the immediate neighbourhood for life and leisure.

4. later, the pupils should themselves build their own dormitories, kitchens, etc. for children from a wider area.

5. one of these two schools should develop courses³ for special purposes, including the training of rural teachers. Adult education should be developed there along similar lines.

6. the farming side of the school work should be done in consultation with experts and visiting experts in the Agricultural Livestock and Veterinary Services and rural crafts such as carpentry and simple joinery, building, forging and weaving should be included.

7. the development of teacher training in one of these schools might develop into the principal source of supply of Somali teachers, bearing in mind that the teacher should have the training of a grade superior

¹ See Section R. UNITED NATIONS - TECHNICAL ASSISTANCE.

² A rural school is one designed to meet rural conditions. The content of formal work would be appropriate to the immediate needs of the area and would make use of examples and vocabulary suited to these needs. A large part of the syllabus would be gardening, farming and country crafts, including building.

³ These would include special courses for adults, sons of chiefs, headmen, etc. as in the Jeanes School near Nairobi.
8. from both these rural schools a plan of community development should emerge. Also, the use of travelling teachers for a "follow-up" should be envisaged.

9. Short residential courses of a month's duration, between farming seasons, could be part of the "follow-up".

10. In the event of the Somali language being developed and put in writing, these schools should teach in Somali and teach some Arabic. They should be in close touch with the Teachers' Training School in Mogadishu, the Language Bureau and the librarian (later, Publications Bureau).

11. The development of the community rather than the individual should be the underlying philosophy.

0. INSPECTION OF SCHOOLS

It is recommended that:

1. there should be five headquarters inspectors of whom one should specialise in Arabic and one in Somali. Both should be members of the Language Bureau.

2. a central inspectorate is essential, even if each inspector is based in

1/ This should be discussed with the staff of Bakt er Ruda, Sudan.

2/ In the Gezireh area of the Sudan the present plan is for a school to work in an area for three years and then move to another site. There is a wide variety of follow-up literature (in Arabic).

3/ (The) "first aim would be to conserve the human resources of rural communities." FAO Study, op. cit. page 22.

4/ Follow-up at Riyom, Nigeria, was achieved in this way. The post-elementary boys of the Birom tribe could attend a "farm school" opened for three separate months in the year, between seasons (by irrigation, ploughing with cattle, etc. the school seasons were somewhat different from the tribal seasons). The day's work included only 1 ½ hours of classroom work. This was found sufficient to render the boys employable in native administration work (court scribes, forest guards, veterinary and agricultural works, medical assistants, etc. after training) after several years of intermittent continuation schooling.

Apart from reading, writing and arithmetic learnt in school, "the real business of life is picked up by the child in unregulated play, in casual intercourse with contemporaries and elders, and by a gradual apprenticeship to the discipline of the home, the farm and the workshop." Quoted from an educational report.
3. the senior inspector should certainly visit other tropical dependencies and see as much as he can in towns, ports, rural areas and training establishments.

4. the controller or adviser of girls' and women's education will in fact be on the headquarters inspectorate but will also advise on policy.

5. training of inspectors should be done by regular pooling of experience and regularly held discussions. Somali assistants will have to be selected and trained within the remaining part of the Trusteeship period.

P. PUBLIC OPINION

The field of education extends to cover the propagation of its own ideals and the popularisation of the methods which it proposes to adopt.

The planner must therefore consider:

1. The demand and supply in both utilitarian and cultural education. He must meet a demand with the best resources available. If a student wants education for earning a living, the planner must consider first what subjects are likely to be of use to him, and provide instruction in those subjects.

2. The next point is to popularize these subjects, and the student must be informed why these subjects are useful. Much ground can be lost by pushing on too fast; much time can be wasted by awaiting a demand instead of actively and intelligently stimulating it.

3. In so doing, he must not only anticipate prejudice and arm himself against it (by propaganda and by pilot projects) but must decide how best to overcome existing prejudices.

4. In short, he must study public opinion and continually see that public opinion is adequately and accurately informed.

^ The inclusion in the five-year plan of an inspector attached to each of the provincial directors (5) is not the same thing. If expansion takes place (and this, it has been advised, should be delayed), the provincial director should do the inspection (and be capable of doing so), but the central inspectorate should be men (and women) of experience and initiative who will carry out a process of cross-fertilisation, spreading new ideas, and skilled in the encouragement of enterprise. If expansion does not take place, the provincial director will be able to do all that needs doing locally and will follow up the inspector's written reports.
It is therefore recommended that Information Centres be set up and be linked with other educational activities, particularly adult education. Such Information Centres are an important factor in mass education throughout Africa.

Q. LIAISON WITH NEIGHOURING TROPICAL TERRITORIES

Throughout this report reference has been made to the work being done in education elsewhere. It cannot be too strongly recommended that:

1. the chief of the Education branch, his deputy and certain key personnel should, as soon as possible, visit such territories, where they will find all concerned willing to show what is being done there. The Territories have been chosen with a view to accessibility.

2. In addition to general educational matters and long-term aims, the following special fields should be viewed and discussed:

   Textbooks and follow-up literature
   The Jeanes School, Nairobi
   Bakt er Ruda, Sudan
   The Education of women and girls, Sudan
   Pre-vocational training
   Activities at Zandi, Dilling (near El Obeid), Bahr el Ghazal, Tonge, etc.

---

1/ Information Centres should be planned to suit the local population. In a town with some literacy a Centre could be a room in a library, with an advice centre on the use of reference books, ample visual stimuli, newspapers and journals in several languages and periodic lectures (perhaps in another building). Special features and exhibitions (including school work) should be designed and displayed and the staff should be well informed on all questions likely to arise from the visual matter displayed, Adult class programmes, music clubs, sports clubs, domestic science classes, etc. might all be advertised. In rural areas the approach would need careful working out, and all efforts made in this direction should be on an experimental basis, with a view to evaluating costs and results.

2/ "No development in rural welfare can be exactly duplicated. The problems require attention, the social environments out of which they arise, the personnel and resources available differ from country to country and even region to region within the same country. Nevertheless, what has been achieved in our place may provide stimulus and guidance in others which have broadly similar problems." FAO Study, op. cit. page 2.

3/ Samples would be sent on request by the Publications Bureau, Education Department, Khartoum, and by the East African Literature Bureau, Education Department, Nairobi.

4/ This is in fact a considerable advance upon the original concept and includes courses for adults and for teachers.

5/ including non-Moslem areas in the south and non-Arabic areas in the south.

6/ This does not preclude visits to other countries. Equally valuable would be visits to Egypt and the Lebanon to study developments there.
3. After the visits recommended in paragraph (1) above, selected pairs of Somali teachers (earmarked for special responsibilities) should visit certain of these places. (In the Sudan in the first instance, for religious reasons).

4. Two Catholic nuns (teachers) would greatly benefit by visits to Nairobi, Dilling and Tonge. Italian nuns are working in most of these places.

R. UNITED NATIONS - TECHNICAL ASSISTANCE

It is recommended that advice and technical assistance be sought from UNESCO in the undermentioned special fields:

The team as envisaged would at first consist of the following:

a. a permanent leader of the team who would be in constant touch with the chief of the education section. He should have wide experience of African education and some knowledge of all fields in which recommendations have been made. He should collaborate with Technical Assistance teams in fields other than education. He should help in the formation of special services, libraries, textbooks, etc. and be the main link with UNESCO and the United Nations' specialised agencies.

b. two experts in rural education who would advise on the setting up of pilot projects in the areas referred to. They should have African experience. They would initiate the projects with special reference to the rural problems and stay long enough to develop links with the greater part of each area to train the Somali to take over and to develop in one of the centres a rural teacher training centre. This would take at least five years, and it is recommended that, provided funds for Technical Assistance are continuously available, they should remain until 1960. These schools would be experimental, and it would be in the light of their progress that the content of fundamental education for the rural areas would develop. They would required a teaching staff and a full range of equipment to pursue the programme and funds for recurrent expenditure. Married men, whose wives have similar experience, and who would be qualified and prepared to initiate special programmes for the women of a rural community would be preferable for such posts.

c. a team of two or three to be responsible for the working out of a research project on fundamental education in nomadic areas. This team would live under very difficult conditions and would probably spend much of their time camping in tents. Their main mode of travel would be in jeeps and in making a survey of the terrain they would require not only experience in Africa but also equipment for experimental work with a mobile camera. They would need to make special films for special purposes. In addition they should study problems of nomadic existence and should work out programmes of social betterment for the varying conditions which they found. To do this they might have to work in two areas at once and in their second year would require two sets of mobile equipment. They would need good Somali interpreters, and, while studying the Somali language themselves, should maintain close touch with the Language Bureau. (See Report by Expert on Nomadic Questions).

d. In addition, it is considered that the services of a functional anthropologist would be essential. His work would be in the field of social anthropology, and while making a study of the Somali people, he should enlist the assistance of the team in making contacts with them. In view of the difficulties of accommodation, he would probably spend much of his time, when in the field, in the company of the rural education experts and the fundamental education team. A good Somali interpreter would be required.
1. **Rural Schools** in the form of pilot projects in two areas, east and west of the Juba River. (See diagrammatic map, Appendix D).

2. **Fundamental Education** in the form of a pilot project, combining language studies and assessment of nomadism, with experimental approaches to solving their fundamental needs.

3. **Functional Anthropology.** (A travelling fellowship).

4. **Educational Advice.** Coordination of the above work and advice on the development of formal education in relation to the needs of the town and country; and advice on contacts with specialized agencies of the United Nations.

**S. GENERAL SUMMARY OF RECOMMENDATIONS**

1. Not the least of the problems to be solved in Somaliland is the great expense involved in a widespread three-point educational scheme. There is need for an economy of resources. Fortunately this will lead to a strict weighing-up of the value of each part of the scheme, a strong and well-chosen educational administration, and a teaching body of the right kind.

2. In the town there is much restlessness among adults attending evening classes. This restlessness could be diminished by an appropriate programme of work. Various recommendations as to methods and organisation have been made; the whole matter requires the detailing of a special adviser or inspector, and as soon as possible the work done should be lifted out of the "schoolroom" and be placed in the category of "life and leisure". Those that have the tools (reading, writing and arithmetic) should start to use them.

3. The ultimate goal for the rural areas is to establish rural schools that are adapted to village conditions. This objective requires the special preparation of teachers for work in the villages. The teaching of girls and women in village centers must not be overlooked, and realistic "vocational" training for them is required. These forms of training, for rural community education, will best be carried out in the center or centers which will develop out of the pilot projects already recommended; this will entail a very close liaison with several departments.

1/ For townsman, countryman and nomad.

2/ with as many of the following qualities as possible: professional skill in modern methods, experience, willingness to study the community and learn their language.

3/ the organisers of rural education and the teachers have much to learn from the villagers before they can relate the teaching and training to the actual needs. But teachers cannot be expected to give agricultural instruction of a vocational nature; this should be the responsibility of the agricultural department.
4. The word "cooperatives" is familiar in several fields in Somaliland and is applied to farms and industries, to a housing project in Mogadishu, and elsewhere. The principle lying behind the word should be consciously striven for in the fields of education, not only in fundamental education and rural education, but also in urban education. In the last named, the application of the principle seems difficult, but it must be striven for, and perhaps clubs associated with adult education will provide the pivot. There is certainly a tendency in the towns to form clubs; all these clubs or societies state that they have a welfare programme, as well as a patriotic one. It would be wise to help in developing the welfare side, for several reasons.

5. The Somali language is a living language. It is the maternal language and has the Klang der Muttersprache. Colation, systematisation, unification and similar processes should be the aim of a Language Bureau. It was recommended that magnetised tape should be used (or a dictaphone). The deliberations of territorial, regional and residency, councils, of rural cooperative meetings, etc. could be so recorded in Somaliland, and the tapes, which are very small and cheap, used as a means of developing the use of the Somali languages. Meanwhile, the alphabet difficulty should be overcome. This may take time, but in the end the alphabet used must be the international alphabet which can provide the correct number of symbols for the required sounds. Obviously any symbol will do to represent any sound, but to use a unique graphology for nationalistic reasons is to create further difficulties, isolation and 'tremendous expense. The "roman" alphabet is in fact pre-Christian, and has no religious significance. Nor is Arabic (which, in any case, is admitted by all to be unsuitable) restricted to the promulgation of Islam. This difficulty is a challenge to an effective use of Information Centres.

6. The necessity of making contacts with other Territories in Africa is frequently stressed in this report. To give an example of the wealth of literature for Africans, the East African Literature Bureau published a catalogue (Annual Report for 1950) of 141 publications, and lists 110 manuscripts in the press. The publications Bureau of Khartoum publishes a wide variety of textbooks and follow-up books in Arabic (the elementary examples being in very large print with points). Beyond all these there is a vast number of English books and readers for Africans, and textbooks for teachers in very many subjects. As many as possible of these should be obtained by the officer in charge of libraries for the use of textbook committees. This would save time, which is precious. So too, the administration staff - the deputy chief, senior inspector, adviser on women's education, library and textbook officer and others - should pay visits to these Territories, for no one can afford to ignore the experience of others. Somali personnel too should pay long visits or receive some training in other Territories in due course. The Language Bureau should discuss difficulties and prejudices met with in development of African languages.

1/ These records would be the agenda and the minutes of the meeting.

2/ Not much progress can be expected unless Italian personnel are required to learn the language.
7. It may be felt that the subject of community education has not been discussed in this report in any detail; few specific recommendations have been made. The subject is all-embracing, and, although one could quote numerous examples from every part of the world where progress, and sometimes failure, of community projects has been recorded, no two would be alike and details cannot be given here. Not all reports are labeled "Education". For example, the Food and Agriculture Organisation of the United Nations has published literature on this subject, of which Training Rural Leaders is a good example. Community education is certainly proceeding in Somaliland; it is not organized or stereotype, but it is not that which is wanted. Its failure is that (with a few exceptions in Missions) it is not intensive. In part this is due to lack of staff, in part to lack of encouragement. But it has been found elsewhere that, given the man (and he might be a Somali) and the idea, the two interacting can create a lasting inspiration to the people. Such work needs full support.

8. A final point must be made concerning the organisation of an education branch under conditions of Trusteeship. It is clear that the foundations of an educational system, in which the Somali will bear an increasing responsibility, must be secure in order to ensure that an expansion of schools and industrial training classes be orderly and economical.

The five-year plan envisages a considerable multiplication of schools and the development of a wide variety of vocational and industrial classes. Certain of these schemes, such as the Vocational Maritime and Fishery School, lie beyond the technical competence of the Mission. However, on the more general aspects of the five-year plan, the Mission would have been able to recommend some revision, after full discussions, had the text of the plan been completed and given to the Technical Assistance Mission shortly after its arrival.
Recommended Chain of Command by Educational Expert on 29 October 1951

SPECIAL SERVICES:
- LIBRARIES
- SCHOOLS MEDICAL & DENTAL
- ADVISER on Education of Females

DEPUTY CHIEF

CHIEF OF EDUCATION BRANCH

DEPUTY CHIEF

FINANCE OFFICER

CHIEF CLERK

INSPECTORS

SOM/ARAB

SOMALI

ITALIAN

POLIT ADJ.

AERO. TEACHER TRAINING

ECONOMIC DEVELOPMENT

DOMESTIC SCIENCE

Example

Staff:

KEY:
- Existing, Italian
- Existing, Somali
- Suggested by Unesco Expert, European
ditto Somali
- European to be replaced by Somali.

(Squares indicate existing conditions; triangles and circle indicate recommendations.)
### APPENDIX - A (2)

#### HEAD OF THE OFFICE FOR PUBLIC EDUCATION

<table>
<thead>
<tr>
<th>Office for Public Education</th>
<th>-Vice-Director</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-Mass Education Teacher</td>
</tr>
<tr>
<td></td>
<td>-Librarian and Textbooks</td>
</tr>
<tr>
<td></td>
<td>-School Doctor</td>
</tr>
<tr>
<td></td>
<td>-Arabic Language Inspector</td>
</tr>
<tr>
<td></td>
<td>-Accountant</td>
</tr>
<tr>
<td></td>
<td>-Secretary</td>
</tr>
</tbody>
</table>

#### Elementary Schools

- Director
- Main Office
- Elementary Schools
  - Italian inspector
  - Arabic inspector
  - Women's Schools
    - Directrice
    - Secretary

#### Secondary and College Schools

- Director
- Inspector
- Secretary
- Headmaster
  - Secondary School
  - School and lyceum (high school)
  - Italian-type lyceum (high school)
  - Somali-type lyceum (high school)

#### Director of Village Schools

- Director
- Inspector
- Secretary

#### Regional Headquarters

- Mogadishu
  - Director
  - Inspector
- Benadir
  - Director
  - Vice-Director
  - Inspector
- A. Giuba
  - Director
  - Inspector
- B. Giuba
  - Director
  - Inspector
- Schibelli
  - Director
  - Inspector
- Madugh
  - Director
  - Inspector
- Midjurtein

#### Director of Professional Training

- Director
- Inspector
- Secretary

#### Additional Schools

- Director
  - Professional Artisan Schools
  - Artisan
  - Accounting Schools
  - Agricultural Schools
  - Medical Schools
  - Maritime & Aeronautic Schools

- Inspector
  - Accounting School
  - Agricultural College
  - Maritime & Aeronautic School
  - Aeronautic College

- Director
  - Artisan Schools
  - Accounting Schools
  - Agricultural Schools
  - Maritime & Aeronautic Schools

- Inspector
  - Accounting School
  - Agricultural College
  - Maritime & Aeronautic School
  - Aeronautic College

#### Additional Schools

- Director
  - Professional Artisan Schools
  - Artisan
  - Accounting Schools
  - Agricultural Schools
  - Maritime & Aeronautic Schools

- Inspector
  - Accounting School
  - Agricultural College
  - Maritime & Aeronautic School
  - Aeronautic College

- Director
  - Professional Artisan Schools
  - Artisan
  - Accounting Schools
  - Agricultural Schools
  - Maritime & Aeronautic Schools

- Inspector
  - Accounting School
  - Agricultural College
  - Maritime & Aeronautic School
  - Aeronautic College

#### Additional Schools

- Director
  - Professional Artisan Schools
  - Artisan
  - Accounting Schools
  - Agricultural Schools
  - Maritime & Aeronautic Schools

- Inspector
  - Accounting School
  - Agricultural College
  - Maritime & Aeronautic School
  - Aeronautic College

#### Additional Schools

- Director
  - Professional Artisan Schools
  - Artisan
  - Accounting Schools
  - Agricultural Schools
  - Maritime & Aeronautic Schools

- Inspector
  - Accounting School
  - Agricultural College
  - Maritime & Aeronautic School
  - Aeronautic College

APPENDIX B

Scholastic Organization

ITALIAN TRUSTEESHIP ADMINISTRATION
OF SOMALILAND

Health & Public Education Office

Public Education Section

Notes on the Scholastic Organization in Somaliland*

Supplied by the Italian Administration for the Trust Territory of Somaliland

*Footnotes by educational expert on Technical Assistance Mission.

September 1951
INCREASE IN THE NUMBER OF SCHOOLS

At the beginning of the Italian Trusteeship Administration (1st April 1950) there were, in the territory of Somaliland:

29 Elementary schools
1 Somali middle school opened 4 months previously.

During the school year 1950-51 the following schools have been in operation in Somaliland:

<table>
<thead>
<tr>
<th>Elementary schools</th>
<th>Schools</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant &amp; Elementary Schools of Italian type</td>
<td>10</td>
<td>32</td>
</tr>
<tr>
<td>Elementary schools of Somali type (day schools)</td>
<td>37</td>
<td>105</td>
</tr>
<tr>
<td>Elementary schools of Somali type (evg. schools)</td>
<td>18</td>
<td>85</td>
</tr>
<tr>
<td>Elementary schools (Indian &amp; Indo-Pakistanian)</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Elementary vocational school</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>68</td>
<td>235</td>
</tr>
</tbody>
</table>

Secondary schools

<table>
<thead>
<tr>
<th></th>
<th>Schools</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium school of Italian type</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Medium school of Somali type</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Upper gymnasium &amp; Lyceum of Italian type</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Refresher Course for Somali teachers</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Preparatory Political Administrative School</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Commercial vocational school of Italian type</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Medium school of Italian type</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Technical bookkeeping school of Italian type</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>School for surveyors of Italian type</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Elementary teachers' training school of Italian type</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>250</td>
</tr>
</tbody>
</table>
During the school year 1951-52, there are or will be in operation (in Midjurtein the school year begins on 1 October) the following schools (the data are approximate):

### Elementary schools

<table>
<thead>
<tr>
<th>School Type</th>
<th>Schools</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant &amp; Elementary schools of Italian Type</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>Elementary schools (day schools) of Somali type</td>
<td>60</td>
<td>128</td>
</tr>
<tr>
<td>Elementary schools (evening schools) of Somali type</td>
<td>23</td>
<td>94</td>
</tr>
<tr>
<td>Elementary schools Indian &amp; Indo-Pakistanians</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Elementary vocational school for craftsmen</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Evening course of applied Arithmetic &amp; Geometry for workmen</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Course of commercial correspondence</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total:** 97 272

### Secondary schools

<table>
<thead>
<tr>
<th>School Type</th>
<th>Schools</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium schools of Italian type</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Medium schools of Somali type</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Upper Gymnasium &amp; Lyceum (classic &amp; science Italian type)</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Teachers training school</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Secondary vocational (Mechanics &amp; fitters)</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Secondary vocational (Carpenters)</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>courses for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Electricians)</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>(Radio operators)</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>(Typists)</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Schools for medical assistants</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Girls' weaver's school</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>School for Somali Aviation specialized workmen</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Political and Administrative school</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total:** 10 34

**Total:** 107 306

### INCREASE IN THE NUMBER OF PUPILS

At the time of taking over from the British Administration the total number of pupils in the various schools of Somaliland appeared as follows:

<table>
<thead>
<tr>
<th>School Type</th>
<th>Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary schools</td>
<td>1,822</td>
</tr>
<tr>
<td>Mission schools (for these no exact data are available.)</td>
<td>1,000</td>
</tr>
<tr>
<td>Figures are approximate</td>
<td>2,848</td>
</tr>
</tbody>
</table>

1/ There were no State Schools for Somalis prior to the war.
During the school year 1950-51 the number of pupils in the various schools of Somaliland was the following:

### Elementary Schools

<table>
<thead>
<tr>
<th>Type</th>
<th>On first enrollment</th>
<th>At end of year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant and elementary schools of Italian type</td>
<td>357</td>
<td>388</td>
</tr>
<tr>
<td>Elementary day schools of Somali type</td>
<td>3,286</td>
<td>2,891</td>
</tr>
<tr>
<td>Elementary evening schools of Somali type</td>
<td>3,219</td>
<td>1,919</td>
</tr>
<tr>
<td>Indian private assisted schools</td>
<td>150</td>
<td>146</td>
</tr>
<tr>
<td>Elementary vocational school</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

### Secondary schools

<table>
<thead>
<tr>
<th>Type</th>
<th>On first enrollment</th>
<th>At end of year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italian pupils</td>
<td>404</td>
<td>395</td>
</tr>
<tr>
<td>Somali or Arab pupils</td>
<td>193</td>
<td>210</td>
</tr>
</tbody>
</table>

Total: 7,639

During the school year 1951-52, at the present date the number of pupils appears to be the following (although the figures are approximate since data concerning schools in 29 localities are not included).

### Elementary schools

<table>
<thead>
<tr>
<th>Type</th>
<th>On first enrollment</th>
<th>At end of year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants &amp; elementary schools of Italian type</td>
<td>4881</td>
<td></td>
</tr>
<tr>
<td>Elementary day schools of Somali type</td>
<td>4,1232</td>
<td></td>
</tr>
<tr>
<td>Elementary evening schools of Somali type</td>
<td>4,1543</td>
<td></td>
</tr>
<tr>
<td>Indian private schools</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Elementary vocational schools</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Course of applied arithmetic &amp; geometry for Somali workmen</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Course of commercial bookkeeping for Somalis</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Total: 9,013

### Secondary schools

<table>
<thead>
<tr>
<th>Type</th>
<th>On first enrollment</th>
<th>At end of year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium school of Somali type</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>Medium school of Italian type</td>
<td>2984</td>
<td></td>
</tr>
<tr>
<td>School for Somali aviation specialized workmen</td>
<td>505</td>
<td></td>
</tr>
<tr>
<td>Teachers training school</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Political &amp; Administrative school</td>
<td>665</td>
<td></td>
</tr>
</tbody>
</table>

Total: 576

Total: 9,589

---

1/ Including 8 Somalis  
2/ Including 609 girls  
3/ Including 129 girls  
4/ Including 2 Somalis  
5/ Part-time adult education
Particularly worthy of notice is the considerable increase in the number of girls in elementary girls schools, both in day and in evening schools.

**INCREASE IN THE NUMBER OF TEACHERS**

**At the time of taking over from the British Administration the number of teachers appeared to be as follows:**

<table>
<thead>
<tr>
<th>School Type</th>
<th>Number of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary schools</td>
<td>671/</td>
</tr>
<tr>
<td>Medium schools for Somalis</td>
<td>9</td>
</tr>
</tbody>
</table>

**During the school year 1950-51 the number of teachers was the following:**

<table>
<thead>
<tr>
<th>School Type</th>
<th>Number of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary schools of Italian type</td>
<td>22</td>
</tr>
<tr>
<td>Elementary schools of Somali type</td>
<td>(Italian 25</td>
</tr>
<tr>
<td></td>
<td>Arabs 37</td>
</tr>
<tr>
<td></td>
<td>Somalis 59)</td>
</tr>
<tr>
<td>Elementary evening schools of Somali type</td>
<td>(Italians 26</td>
</tr>
<tr>
<td></td>
<td>Somali 1)</td>
</tr>
<tr>
<td>Secondary schools</td>
<td>(Italians 55</td>
</tr>
<tr>
<td></td>
<td>Arabs 1)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**During the school year 1951-52 the number of teachers is:**

<table>
<thead>
<tr>
<th>School Type</th>
<th>Number of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary schools of Italian type</td>
<td>19</td>
</tr>
<tr>
<td>Elementary day schools of Somali type</td>
<td>(Italians 60</td>
</tr>
<tr>
<td></td>
<td>Lybians 6</td>
</tr>
<tr>
<td></td>
<td>Somalis 117)</td>
</tr>
<tr>
<td>Elementary evening schools of Somali type</td>
<td>(Italians 17</td>
</tr>
<tr>
<td></td>
<td>Somali 1)</td>
</tr>
<tr>
<td>Secondary schools</td>
<td>(Italians 45</td>
</tr>
<tr>
<td></td>
<td>Arabs 1)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1/ These teachers were all trained by the British Administration or imported from Arabia. There were no teachers before the war.
Newly established schools

23 new elementary schools were established, or about to be opened, with the 1951-52 school year. These are all of the Somali type. Moreover, in almost all localities where there are schools, there were established, in addition to day courses, evening courses for adult people and a very large number of persons attend them. In Mogadishu the following special courses, of a particular character, also for adult persons, were established:

Courses of applied arithmetic and geometry for Somali workers.

Courses of commercial correspondence for Somalis.

Alterations and school programmes for elementary school of Somali type.

Successful educational courses for illiterate or semi-illiterate Somali service men of the Security Corps have also been held. These courses were attended, during the past school year, by over 2,500 pupils (this figure does not appear on the report to the Trusteeship Council). These courses will now be carried out in the same manner as elementary schools. Exact data on the number of pupils are not yet available.

The structure of the elementary school of Somali type has been amended by cutting down its duration from 6 to 5 years and by establishing a special preparatory course for children who have not completed a special preparatory course for children who have not completed their sixth year. Teaching programmes for elementary schools of Somali type have been carefully considered and elaborated. They were discussed and approved by the Central School Council, and are about to be published in the Official Bulletin of the Italian Trusteeship Administration.

Particularly worthy of notice is the inclusion, in the programme of fourth and fifth years of elementary schools, of the practice of manual work, as it is a well-known fact that Somalis, particularly those belonging to the so-called "noble" tribes, considered, up to now, manual work to be a degrading occupation.

Text books and didactic materials.

The first text book for Somali elementary schools has been entirely compiled and illustrated by the teachers in Somaliland and is now in course of distribution.

Montessori School

All special didactic materials and furniture for the establishment of two infant and elementary schools of the "Montessori" type were bought. These schools will begin as soon as the specialized school-mistresses, already requested in Italy, arrive.

1/ There are no school workshops yet. One school garden was seen. Manual work consists mostly of clay-modelling and fretwork, if done at all.

2/ One schoolroom was seen (not yet in use). An intention to "translate" these methods and this type of apparatus for use by Somali and Arab children is not considered by us to be worth pursuing.
A meeting of all teachers in elementary schools in Somaliland was convened in Mogadishu. The meeting was actively attended also by Somali teachers. On that occasion it was decided to form an association among teachers of Somaliland. Serious difficulties are being faced in engaging Somali teachers, of whom there is great need, as the number of people in possession of a degree is, among the Somalis, extremely low.

Salaries of Somali elementary teachers, who have successfully completed the refresher course, have been increased from a minimum of 245 Somalos to a maximum of 440 Somalos per month; when the degree of their culture has improved, a further increase is envisaged; degrees of studies accomplished being equal, they will be paid the same salary as Italian elementary teachers in Somaliland (local).

INFORMATION ABOUT SECONDARY AND VOCATIONAL SCHOOLS.

The following courses and schools for Somalis were opened for the 1951-52 school year, or will be opened shortly:

- One secondary course for aviation trains workmen in the following special trades.1/
  - (engine mechanics
  - (fitters
  - (radio operators
  - (aerologists

- Secondary vocational courses for2/
  - (mechanic-fitters
  - (carpenters
  - (electricians
  - (radio fitters
  - (typists

One school for medical assistants

One school for weavers.

The middle school of Somali has started its second year, thus increasing the number of classes from two to four.

The preparatory school of Political Administration also commenced the second term, so that there are now two classes.

It is proposed to re-examine and fix, before the end of the current year, the school programmes for elementary schools for adult persons, as well as those for medium schools of Somali type, on the basis of the experience made during last year.

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1/ A part-time evening course.

2/ Not yet equipped and staffed.
Expenditure for school organisation.

During the financial year 1950-51 expenses for school organisation were distributed as follows:

## Expenses for teaching personnel:

<table>
<thead>
<tr>
<th>Personnel Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries to Italian teachers</td>
<td>So. 555,560</td>
</tr>
<tr>
<td>Salaries to Mission teachers</td>
<td>So. 281,250</td>
</tr>
<tr>
<td>Salaries to Lybian teachers</td>
<td>So. 66,215</td>
</tr>
<tr>
<td>Salaries to Somali teachers</td>
<td>So. 217,620</td>
</tr>
</tbody>
</table>

General expenses relating to Managing and Teaching personnel (travel, transfers, tours of inspection, etc.) So. 180,000

<table>
<thead>
<tr>
<th>Personnel Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure for subordinate personnel</td>
<td>So. 13,440</td>
</tr>
<tr>
<td>Expense for school buildings (erection of new schools and repairs to school buildings)</td>
<td>So. 611,200</td>
</tr>
<tr>
<td>Expense for maintenance of school buildings approx.</td>
<td>So. 250,000</td>
</tr>
<tr>
<td>Purchase of didactic materials and furniture</td>
<td>So. 369,542</td>
</tr>
<tr>
<td>Purchase and printing of text books</td>
<td>So. 27,530</td>
</tr>
<tr>
<td>Running expenses for craftsmen</td>
<td>So. 67,873</td>
</tr>
<tr>
<td>Subsidies to Indian schools</td>
<td>So. 3,300</td>
</tr>
<tr>
<td>Running expenses for orphanages</td>
<td>So. 66,705</td>
</tr>
<tr>
<td>Running expenses for residential school for Eurafricans</td>
<td>So. 88,228</td>
</tr>
<tr>
<td>Running expenses for elementary schools</td>
<td>So. 145,770</td>
</tr>
<tr>
<td>Running expenses for secondary schools</td>
<td>So. 11,445</td>
</tr>
<tr>
<td>Running expenses for Preparatory School of Political Administration</td>
<td>So. 7,335</td>
</tr>
</tbody>
</table>

**TOTAL** So. 1,662,368

## GENERAL TOTAL

So. 2,963,013

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The nomadism of a greater portion of the population, its scanty density and the great distances between important inhabited centres make it particularly advisable to set up residential or boarding schools, three of which will be completed within the current school year, namely:

- Residential school for Somalis in Mogadishu, which will be used during the vacation term, as from March 1952, for an intensive course of training for Somali teachers living out of Mogadishu:

- Residential school for sons of Somali servicemen, built with spontaneous contributions offered by Italian servicemen, of the Security Corps:

1/ This is an elementary school.
-Agricultural School-College/ of Merca and Genale, for which the following approximate expenditure is provided:

Alteration and repairs to the block of buildings in Merca (El Magne) ........................................... So. 150,000
Alteration and repairs to the block of buildings in Genale ........................................... " 90,000
Furnishing of the College in Merca ....................... " 85,000
Furnishing of experimental laboratories in Genale. " 30,000
Laboratories equipment and purchase of didactic materials ........................................... " 50,000
In total .. 405,000

There is at present under consideration the institution of a vocational school for seamen, intended to furnish a special training for coastal traffic and fishing. It is believed that such a school would be useful to a large portion of the coastal populations, particularly to those of the Midjurtein Province, who may find in fishing one of their very few possibilities of earning a living.

Under consideration also is the possibility of instituting special mobile schools, to meet the requirements of nomadic populations of a large portion of the Territory.

Both these plans present many difficulties, and therefore their realization is not quite certain for an early date.

Scholarships. The best manner to use scholarships offered by Italy, U.N.O. and some States is now being examined. It is believed, in fact, that the best advantage offered by these scholarships would be obtained by affording a few young people the opportunity to go abroad and go through courses of studies, specialisation or training not comprised in the school organization existing in Somalia. It would therefore be a question of higher schools than the medium schools of Italian and Somali type, except in cases of certain vocational courses, for which studies made in the elementary schools might be sufficient preparation.

The difficulty of such a problem lies, at the present moment, in the extremely scanty number of Somalis who have completed such studies, and, on the other hand, in the great demand for this section of students, for teaching in the elementary schools and for public and private employment.

Private schools. It must be borne in mind that private schools in Somalia, contrary to what happens in other African territories, cannot greatly assist educational development.

1/ See report of Agricultural Expert.
The 29 monks and nuns, who form a part of the teachers, carry out their activity in elementary schools, of Italian or Somali type, which passed entirely under the Administration in force of a convention made with the Apostolic Vicariate.

Since Somalis are all Moslems and consequently averse to any form of religious proselytism, it is anticipated that it will hardly be possible to set up Christian or Missionary private schools. Nor, on the other hand, may other private schools be expected to flourish.
APPENDIX - C (1) LANGUAGES

1. CLASSICAL ARABIC AND LOCAL ARABIC

There is a general tendency to confuse the "orbis islamicus" with the "orbis arabicus." One must always bear in mind that a great part, perhaps the majority of the Moslem world does not know the Arabic language except in the form of certain verses or suras, indispensable in prayer; suras which all the faithful recite but not all of them fully understand. Also there are many Moslems who, while speaking a dialect of Arabic, nevertheless are ignorant of the classical form.

In general, a knowledge of the classical form, the supreme exemplar of which is the Koran, is restricted to an elite. A knowledge of classical Arabic does not mean, ipso facto, a knowledge of modern Arabic in which are found many Arabic terms of classical origin which have acquired a special meaning, created by press and radio to meet the demands of modern technology.

The Arab world defends its language, for which it has a deep affection; but whatever may be claimed, there is a vast difference between the dialects of Sahara, Morocco, Tunis, Egypt, Syria and elsewhere on the one hand, and the classical language, whether ancient or modern on the other.

In Somaliland the Hadramaut and Yemenite dialects are very widespread, especially in the larger centres of population and in the world of Commerce. One must not forget that there are 23,000 Arabs resident in the country. In the interior of the country dialects of Arabic are quite unknown let alone classical Arabic, which is the possession of a "happy few."

It must be admitted that for those who are not students of Arabic, it is easy to make mistakes. One meets men everywhere, young and old, crouching in the shade of a wall, bent over Arabic texts. These texts are generally either the Koran itself, or collections of verse in honour of the Prophet. These people in fact read but do not understand. When young, they all went to the Koranic schools. Besides the recitation of some passages from the Koran, they learnt the letters of the alphabet and how to write them. So they can read perfectly a text having the vowels marked, they can reproduce in writing, from memory, a text they have learnt, but they cannot write a letter, for they have never learnt grammar.

Such men are in the same position as many of us who learnt a little Greek when young, and having completely forgotten it can, nevertheless, twenty years later, read fluently a page of Greek without understanding it at all.

1/ For example; the verb from classical Arabic which means "to herd camels in front of one", in modern Arabic acquires the sense "to drive a car". The word "ouad" which means "river" has come to mean to the press "column in a newspaper."

2/ A practical proof of this is that the cinema films of Egypt are produced with words spoken in the Egyptian dialect. If classical Arabic were really so close to the dialects, why not make films with spoken classical Arabic? The producers know well that if they did so the majority of the Egyptians would not understand, let alone those in other parts of the Arab world.
Moreover most Arabic writing is an incomplete system of notation, and except in sacred texts and poetry, only those consonants and half-consonants which form part of the root, or have an important function in the syntax are written down.

The short vowels which indicate either the person of the verb, or the case (nominative, accusative or genitive-ablative) are not indicated in a letter, nor in a newspaper. For example:

QTL can be read either QaTaLa .......... He has killed
or QuTiLa .......... He has been killed.

R LB " " RaLaBa .......... He has conquered
RuLiBa .......... He has been conquered

Q TL " " QuLtU .......... I have said
QuLtA .......... Thou hast said (masculine)

It follows that a man who has just read with fluency a page of the Koran, may be incapable of reading a newspaper, because one cannot read the latter correctly unless one has a perfect knowledge of grammar.

Since the dialects (which are not written) gave up centuries ago the declensions of classical Arabic, and many of its grammatical rules, it follows that knowledge of a dialect is of only slight help in undertaking the study of the classical language. It is as if an Italian, a Frenchman or a Spaniard pretended to be able to read and write Latin through the knowledge of his own language.

These seem to be the illusions to which the Somali has fallen a victim, in demanding the widespread teaching of Arabic. It would appear praiseworthy, inescapable even, that being Moslem the Somali should be forced to make a serious study of the language of their religion. With the system in actual use, it seems that, apart from those particularly gifted individuals, who will pursue their study of Arabic to an advanced stage, the young Somali who stops his studies at the end of the primary course will be unable to understand the beauty of the Koran, unable to read a newspaper properly, and unable to listen to and understand perfectly an Egyptian cinema film.

But this is not exactly the end in view.
APPENDIX C (2)

THE SOCIETY FOR SOMALI LANGUAGE AND LITERATURE

The "Society for Somali Language and Literature" was created to stop the disappearance of the language, to study it, to collect books dealing with it and publish studies, to improve Somali script, to translate foreign works into Somali, and to use Somali both as a language of culture and for instruction. These objectives were set out on 5 October 1951. The Society has appealed to the United Nations for assistance rather than advice.

It is interesting to note that they claim that there are no differences of dialect, and apart from the arguments for developing the language, they have only one point to make. This is that the roman alphabet, being non-Moslem is unacceptable, and that the alphabet invented by Yassim 'Osman Kenadid' in 1922 is the only one acceptable.
APPENDIX C (3)

RECAPITULATION OF RECOMMENDATIONS ON LANGUAGES BY EXPERT ON EDUCATION

Attention has been drawn in this report to the use of three languages and two alphabets in school. If the third of these languages (Somali) were to be written in the 'Osmaniyh' alphabet, there would be three alphabets and three arithmetical notations. This would be absurd for Elementary Schools.

Yet each language has its value. Somali is the mother tongue which all sections wish to develop. Arabic is the sacred language of Islam and must remain. Italian is the main language of administration and, at this time, the main link with the rest of the world.

TABLE SHOWING PROPOSALS FOR LANGUAGE STUDY AND LANGUAGE OF INSTRUCTION.

<table>
<thead>
<tr>
<th>Language</th>
<th>ELEMENTARY SCHOOL</th>
<th>LOWER MIDDLE</th>
<th>UPPER MIDDLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOMALI</td>
<td>spoken and in time developed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARABIC</td>
<td>taught</td>
<td>Taught to students who enroll in ....</td>
<td>School of Arabic Studies.</td>
</tr>
<tr>
<td>ITALIAN</td>
<td>taught and language of instruction.</td>
<td>Italian Ginnasio</td>
<td>Italian Lycee</td>
</tr>
<tr>
<td>ENGLISH (optional)</td>
<td>Taught. May be used as occasional language of instruction</td>
<td>Taught. Language of Instruction.</td>
<td></td>
</tr>
</tbody>
</table>

1/ Italian still used throughout as language of instruction in Basic Science, Intermediate Mathematics, Current Affairs, etc.

2/ Italian still used in first two years except as language of instruction in certain subjects (e.g. Basic Science.)

Of the two written languages, Arabic is by far the more difficult, and it is recommended that opportunities be given for the real mastery of it to students who wish to embark on a course lasting ten or more years. In view of the recommendations which follow, it is anticipated that the number will be comparatively small, and that it will be necessary to centralize such classes (not necessarily in Mogadishu, but in some residential School of Arabic Studies). For the majority, the time spent on Arabic should be decreased in the Middle School, and for those who specialise in
another foreign language Arabic should cease.1/

A similar opportunity should be offered in two other foreign languages: Italian and English. The arguments in favour of including English hardly need repetition. But a difference must exist in the present regime, for Italian is the language of instruction in the Middle Schools. In some way English should become a language of instruction, as an alternative to Italian as a language of instruction.

The position recommended is as follows:

It is suggested that if this recommendation is followed an appropriate first step would be to plan (and publicise) the foundation of a School of Arabic Studies.

So far as English is concerned, when it is accepted that there is only one post-primary academic foundation for the Somali, and that the thorough teaching of Italian can only be done in the Italian type schools, there should be little difficulty in introducing it as an optional subject in the Somali type school.

1/ An exception might be made enabling a boy to study say Arabic and Italian to a Middle Standard, at the expense of handwork, or nature study, or basic science.
APPENDIX D

Map Showing Distribution of Existing Schools and Proposed Additions
APPENDIX - E

DIAGRAM SHOWING RECOMMENDED PRIMARY AND SECONDARY SCHOOLING
AND ITS RELATION TO VOCATIONAL TRAINING

<table>
<thead>
<tr>
<th>SUDAN (technical)</th>
<th>Elementary</th>
<th>1 Tech</th>
<th>2 Tech</th>
<th>Elementary continuation. Rural. Technical</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Apprent. plus cont.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ITALIAN TYPE</th>
<th>Prep</th>
<th>Elementary</th>
<th>Gymnasium</th>
<th>Lyceum - Classic</th>
<th>Lyceum - Science</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SOMALI TYPE</th>
<th>Prep</th>
<th>Elementary</th>
<th>Middle 1</th>
<th>Middle 2</th>
<th>Elem. Cultural. Rural Polit. Adm. Aeronautics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rec. Middle 1</td>
<td>Rec. Middle 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gen'l &amp; Commer. plus continuation*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Departmental plus continuation*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gen'l Tech. plus continuation*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gen'l &amp; Commer. plus continuation*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Departmental plus continuation*</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Gen'l Tech. plus continuation*</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Present Artisans' Schools plus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>continuity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SCHOOL YEARS</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>ADULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUPILS' AGES</td>
<td>7-10</td>
<td>12-15</td>
<td>15-18</td>
<td>20-23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>max. &amp; min.</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: A small part of the Sudanese system is shown. In the Sudan are 3 Intermediate Technical Schools in outlying towns. These admit boys after 4 years Elementary School and give 4 years education up to Intermediate Studies on selected subjects (e.g. no Geography but Current Affairs) and English. The output goes to (a) Central Technical School, 3 years (b) "Industry" ( retaining Day and Evening Continuation Schooling in (i) Government installations care and maintenance and (ii) Building.) The Secondary Technical School gives 3 years of 75% craft and 25% of minimum educational requirement for intelligent operation of craft. Continuation schooling is still available after this. Departments recruit students and hold them on their strength (Scale J).
CHAPTER VI PUBLIC HEALTH

A. GENERAL ASPECTS

1. Principal Problems

The Principal health problem of the Trust Territory of Somaliland under the Italian Administration consists in improving the hygienic standards of the people through better environmental health and better organisation of the Public Health Administration. Particular attention will have to be given to preventive and social care, not only in the towns but above all in the inland areas.

Consequently the dwellings, water supply, nutrition, principal diseases and causes of death should be examined.

a. Dwellings

The primitive state of by far the greatest part of the settled population's dwellings - consisting principally of the tucul and the arish, sheds and a few rare and unhygienic brick houses without latrines and other toilet facilities - and their living habits all contribute to the spreading of contagious diseases.

The tucul, which is the most commonly used, is a one-room wattle hut plastered inside and sometimes outside with a mixture of mud and cow-dung. It has a small low door and occasionally, very occasionally, a small window. The room, which is dark and mean, is used as a bedroom, living room and closet for the humble belongings which are carelessly stored or lying around in untidy heaps. In such a room, there are many hiding places where mosquitoes, cockroaches, ticks, bed-bugs, flies, etc. can breed.

There is generally a fenced-in space attached to the tucul called the arish which is sometimes partly covered with branches. In the centre there is a primitive fireplace for cooking purposes, and often there is a simple hole in the ground in one corner which is used as a latrine. This arish is often also used as a stable for the livestock (cows, calves, goats, etc.)

These dwellings are nearly always grouped together in villages.

b. Water Supply

Bacteriologically and chemically pure drinking water is practically non-existent for indigenous consumption.

The absence of typhoid infections in Somaliland and the fact that the Somali have been accustomed to this non-potable water for centuries make the problem slightly less tragic, but, up to the present, health aspects of the problem of the water supply in the interior have not attracted enough attention to lead to any sustained protective measures.
The Sanitary Engineering Corps has not yet been called upon to carry out any projects in Somaliland.

The great majority of the Somali population - according to their centuries' old custom - draw their drinking water from primitive wells which cannot give any hygienic guarantee, or directly from the rivers. The population who live far from the rivers or wells (there are some villages 60 Kilometres and more from the nearest well or river) build small artificial ponds called uar to collect rain water. The Somali drink their water as it comes directly from the well, the river or the uar, that is, muddy. Only a very few wait for the silt to settle more or less in their tungi (wooden bowls burnt on the inside) or in special earthenware jars before they drink it.

In the country it is not unusual to see Somali drinking from the rim of the well or scooping up the water with cupped hands from the muddy bottom of the uar, the same water in which they had previously bathed or performed their ritual ablutions and even watered their livestock.

Furthermore, these waters are often not potable chemically. The presence of ammonia and nitrates has been noted in some of the waters. The dry residue in samples of water examined has often been found to exceed one gram per litre, and sometimes it has even been more than four grams per litre. Chlorides are generally present, averaging 0.350 grams per thousand with a minimum of 0.046 grams per thousand and a maximum of 0.673 grams, often giving the water a brackish taste.

c. Nutrition

No complete survey has been made of the physiopathology of nutrition in Somaliland. The only reports and data that have been available are of a hazy and conflicting nature.

However, dietary conditions in the towns and beside the rivers are very different from those in the dry and barren Midjurtein. Aside from local factors, customs and traditions, the Somali diet is chiefly influenced by economic conditions. In general, their living standards are extremely low and at times they live in abject poverty.

Consequently, a well-balanced and satisfactory diet is seldom to be had and their normal diet shows a deficiency of albumin, fats and certain vitamins (vitamins B and C).

d. Mortality

The great lack of demographic statistics in Somaliland censuses, (except for the notable effort made in 1931 to collect vital statistics on birth and death rates, disease rate, causes of death, life-expectancy, etc.) makes an exact survey of the population's health conditions arduous if not impossible.
Even the small amount of information, reports and statistics supplied by the doctors is often inadequate and unreliable and not always comparable since methods and interests differ greatly.

In short, all data available concern only a small part of the country and generally refer only to what can be seen from a small surgery or an infirmary.

Mortality statistics for the hospitals do not give an exact indication of the general incidence of disease.

In 1949 a total of 438 patients died in the Somaliland hospitals and in 1950, 401.

Of these, 40 per cent (178) in 1949, and 35 per cent (141) in 1950 died of tuberculosis; 8 per cent in 1949 and 7 percent in 1950 of traumatic lesions; 5.7 per cent in 1949 and 5 per cent in 1950 of malaria; 5.7 per cent in 1949 and 6.7 per cent in 1950 of pneumonia; 2 per cent in 1949 and 4.2 per cent in 1950 of syphilis; 5 per cent in 1949 and 3.5 per cent in 1950 of colitis not better specified; 3 per cent in 1949 and 3 per cent in 1950 died of blood-poisoning (Septicaemia).

The following statistics were obtained from the De Martino Hospital maternity ward:

<table>
<thead>
<tr>
<th>YEAR</th>
<th>LIVE BIRTHS</th>
<th>STILL BIRTHS</th>
<th>LIVE BIRTHS AT BIRTH</th>
<th>STILL BIRTHS AT BIRTH</th>
<th>DIED AT BIRTH</th>
<th>ABORTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1946</td>
<td>185</td>
<td>18</td>
<td>8</td>
<td>14</td>
<td>15</td>
<td>27</td>
</tr>
<tr>
<td>1947</td>
<td>246</td>
<td>20</td>
<td>7</td>
<td>12</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>1948</td>
<td>272</td>
<td>23</td>
<td>13</td>
<td>7</td>
<td>11</td>
<td>29</td>
</tr>
<tr>
<td>1949</td>
<td>230</td>
<td>26</td>
<td>13</td>
<td>5</td>
<td>8</td>
<td>66</td>
</tr>
<tr>
<td>1950</td>
<td>257</td>
<td>37</td>
<td>21</td>
<td>27</td>
<td>12</td>
<td>52</td>
</tr>
</tbody>
</table>

As may be seen from the above figures, over a five year period at the Mogadishu Hospital there has been a total of 1,190 births; while the stillbirths, premature stillbirths, infants dying at birth and abortions are estimated at 457 lives lost, equivalent to 38 per cent of the live births.

B. HEALTH ADMINISTRATION

1. Central Health Administration

In Somaliland the central body which deals with health and sanitation is the Ufficio di Sanita e Instruzione Pubblica (Public Health and Education Office) directed by an Administrative official who is responsible to the Administrator and the General Secretary.

This Office is divided into two sections: health and public education.
The health section consists of: The Health Inspectorate and the Veterinary Inspectorate directed by a Health Board.

a. The Health Inspectorate is supervised by a doctor, assisted by two other doctors and an administrative official.

   It represents the technical directing body which coordinates and controls all matters pertaining to the administration of public health in Somaliland.

   It supervises hospitals, the medical personnel attached to the infirmaries and dispensaries located in the territory in proportion to the number of estimated population, the leper hospital, the harbour health offices, the School for Nurses and Medical Assistants, the Laboratory for Hygiene and Prophylaxis, the Merca Sera and Vaccine Institute and the central depot for medical supplies.

   The outbreak of infectious diseases is reported to the Inspectorate which gives instructions as required to check their spread. The Health Inspectorate also has a yellow fever control section which was set up during the early months of British occupation.

b. The Veterinary Inspectorate is directed by a veterinarian, one assistant veterinarian and an administrative employee. The Veterinary Inspector is the head of all the central and outlying services, directs and coordinates all services in the outlying districts. He reports, inter alia, to the Public Health and Education Office on progress of the service and to the Health Inspectorate all information on animal diseases transmissible to man.

c. The Health Board was set up on 30 June 1951 and consists of: the Superintendent of Public Health and Education, the Health Inspector, the Veterinary Inspector, a representative from the Department of the Interior, a representative from the Army Medical Department, the Director of the De Martino Hospital, and six Somali nominated by the Administration.

   The Health Board gives advice on all matters submitted for consideration and may, on its own initiative, undertake investigations relating to the health organisation of the Territory and suggest the adoption of measures which it deems necessary.

   The Health Board meets at least once a month.

2. Provincial Level

   Somaliland is divided into six commissariats: (1) Midjurtein Commissariat; (2) Mudugh Commissariat; (3) The Upper Juba Commissariat; (4) The Webbe Shibel Commissariat; (5) The Banadir Commissariat; (6) The Lower Juba Commissariat.

1/ Elsewhere in this report it is recommended that the veterinary service be transferred to the Bureau of Agriculture and Livestock.
At the head of each of these districts there is a Commissioner who supervises all services. He has no health office (in Somaliland there are no provincial doctors), but he can avail himself of the residency doctor's help.

In every Commissariat there is a secondary hospital with a minimum of 22 beds as, for example, at Galcaio (Madugh); and a maximum of 72 beds as at Kismayu (beyond the Juba) to which one or two doctors are attached.

The doctors who work at the Commissariats have, furthermore, a unit at their disposal for the fight against yellow fever which is usually made up of one Italian inspector and four Somali supervisors.

3. Local Level

With the exception of the city of Mogadishu, autonomous communal administrations do not exist in Somaliland at present. Consequently, the communal health services are directly responsible to the Central Health Authority.

In the most important towns, 18 communal administrations are about to be set up (some in fact have already been established), but as regards public health services, the municipalities cannot be expected in the near future to assume, in any substantial measure, direct local health administration.

On the other hand, at Mogadishu, there is a health office superintended by the Health Officer who is directly responsible to the head of the Municipal Corporation and assisted by another doctor and a veterinarian.

The Health Officer has the following duties: prophylaxis of infectious diseases; sanitary inspection of grounds and villages, food shops and drinking water; medical examinations of public employees and vaccinations.

Six sanitary guards and 150 scavengers are on the staff of the Health Officer.

At Mogadishu there are three hospitals, nine surgeries, and one infirmary attached to the prison; one hygiene and prophylaxis laboratory; the central depot for medical supplies, the harbour health office and a research and study centre.

4. Local Health Units

In centres where there is a Resident, the local medical units consist of of a hospital or an infirmary, with an average of 10 beds, and a surgery attached. Both are superintended by a doctor, with one or more nurses to help them.

The rural centres are provided with first aid posts or dispensaries under the care of male nurses. They are periodically inspected and supervised by the nearest doctor.
Besides the three Mogadishu hospitals, there are another six secondary hospitals, one for each seat of Commissariat, 15 infirmaries and 38 rural dispensaries.

There is a total of 68 dispensaries in all; 9 in Mogadishu, 6 attached to the Commissariat hospitals, 15 to the infirmaries located in the Resident seats, and 38 in rural centres.

Owing to the lack of statistics it is impossible to establish with any accuracy the number of people treated at each surgery; but, not allowing for the seasonal migration of the wandering tribes, it may be supposed that each surgery superintended by a doctor supplies treatment to approximately 30-35,000 people, and each surgery superintended by a male nurse to approximately 10-15,000 persons.

Doctors attached to secondary hospitals and infirmaries total 22, and the male nurses 130, including those who superintend the rural surgeries.

5. Public Health Budget

In the Somaliland budget, under the item of Health Services, funds are allocated for the following expenses only:

a. Medicines and sanitary supplies.
b. Equipment for medical institutions.
c. Wages for day workers.
d. Petty expenses for small purchases.

With further reference to expenditures:

1. Salaries for full-time personnel and for building operations are included respectively under the item covering funds appropriated for the entire AFIS personnel and under item for public works, without any distinction being made between the different services.

2. The central bodies handle the budgetary funds intended for medical and sanitary expenses but normally give advances to the Regional Commissioners for certain expense items to be settled locally.

3. As regards to the item for the Health and Public Education Office, funds are advanced to the District Commissioners for boarding patients and for small recurring expenses, while medicines and sanitary supplies and equipment are purchased directly at headquarters and sent out to the hospital units inland as required.

In 1950/51, the budget for public health, inclusive of all personnel and capital expenditure, amounted to So. 6,350,000 (pound sterling 317,500) divided as follows:

Expenditure for Staff ......................... 2,850,000
Maintenance and Operating Expense ............ 2,800,000
Medical Building .................................. 700,000

**TOTAL** 6,350,000
6. Personnel

The medical and auxiliary personnel of Somaliland consists of:

a. Professional Staff (All Italian citizens)

i. Doctors: 43 (including two army doctors attached to civil services). (Another six doctors from Italy are expected). Of these doctors, 32 are general practitioners, plus three surgeons, one radiologist, one oculist, one dermosyphiliographer, one paediatrician, one obstetrician, one bacteriologist, two hygienists.

ii. Veterinarians: 10 veterinary surgeons.

iii. Chemists: 3, of whom two are pharmaceutical chemists.

b. Auxiliary Staff

i. 8 midwives of whom one is a European.

ii. 252 hospital attendants, including 26 nurses.

iii. 22 student hospital attendants.

iv. 3 bacteriological laboratory assistants.

v. 22 district aedes control inspectors.

vi. 67 district aedes control supervisors.

vii. 435 unqualified auxiliary staff (hospital orderlies, stretcher bearers, porter, kitchen staff, etc.)

The auxiliary staff totals 811, 90 of whom are Europeans. All these medical officers with one or two exceptions are trained in hospital service only, and therefore they tend to take more interest in hospital work than in public health problems.

c. Personnel Allocation

Personnel is allocated as follows: in Mogadishu; 21 doctors, 122 hospital attendants, 3 midwives. Inland, 22 doctors, 130 hospital attendants, 5 midwives and specifically;

i. Midjurttein Commissariat: 4 doctors, 20 hospital attendants, 21 auxiliary staff; one hospital with 32 beds at Bender Cassim; 6 infirmaries - Sciusciuban, Hordio, Cardo, Eile, Alula, Hafun and 4 dispensaries - Bargal, Candala, Garoe, Bender Bella.
11. Mudugh District Commissariat: 3 doctors, 10 hospital attendants, 1 midwife, 12 auxiliary staff; a 22-bed hospital at Galcaio; 2 infirmaries at Obbia and El Bur; 4 dispensaries - Haradera, El Dere, Dusa Mareb, Garad.

11.1. Upper Juba Commissariat: 5 doctors, 20 hospital attendants, 2 midwives, 28 unqualified auxiliary staff; a 62-bed hospital at Baidea; 3 infirmaries - Hoddur, Lugh Ferrandi, Bardera; 8 dispensaries - Duguna, Tigieglo, Dinsor, Uegit, Dolo, Buracaba, El Uak, Morogavi.

11.2. Webbe Shibeli Commissariat: 3 doctors, 20 hospital attendants, 1 midwife, 18 unqualified auxiliary staff; a 22-bed hospital at Galcaio; 2 infirmaries at Obbia and El Bur; 4 dispensaries - Haradera, El Dere, Dusa Mareb, Garad.


11.4. Lower Juba Commissariat: 3 doctors, 28 hospital attendants, 1 midwife, 30 unqualified personnel; a 72-bed hospital at Kismayu; one leper hospital on the island of Alexandra with 150 beds; one infirmary at Gelib; 10 dispensaries - Torda, Ionte, Calacaio, Chiambone, Afmadu, Urufle, Margherita, Cudaio, Badadda, Beles Cogani.

7. **Salaries**

a. The monthly salaries for doctors, veterinarians and chemists vary between a minimum of So. 1,550 and a maximum of So. 2,300 and are the same for the administrative personnel of the same grade.

b. Salaries for hospital attendants and auxiliary staff (hospital orderlies, stretcher bearers, porters, kitchen staff, etc.) vary from a minimum of So. 60 a month to a maximum of So. 550 a month. The indigenous Somali hospital attendants have six grades.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Nurses</th>
<th>Student Nurses</th>
<th>Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>3</td>
<td></td>
<td>from So. 440 to 550</td>
</tr>
<tr>
<td>IV</td>
<td>23</td>
<td></td>
<td>from So. 295 to 430</td>
</tr>
<tr>
<td>V</td>
<td>57</td>
<td></td>
<td>from So. 200 to 275</td>
</tr>
<tr>
<td>VI</td>
<td>92</td>
<td></td>
<td>from So. 125 to 185</td>
</tr>
<tr>
<td>VII</td>
<td>77</td>
<td>16</td>
<td>from So. 100 to 125</td>
</tr>
<tr>
<td>TOTAL</td>
<td>252</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

305
1. School for Hospital Attendants

The first school was set up in Mogadishu at the De Martino Hospital in 1934.

After a break due to the war, the school reopened in 1946.

The one-year courses are attended by approximately 100 students. Attendance is compulsory, both for those who wish to obtain their diploma and for those who already have their nursing diploma and wish to be promoted to the next grade.

Promotion will be accorded only when the students have attended the whole course and passed a proficiency test.

The aim of the school is to raise the standards of hospital duties and care of patients, and the level of instruction in certain diagnostic and therapeutic tests of all personnel employed in the health service; and finally to ensure that an adequate reserve of proficient personnel may be available at any moment.

The only qualification required for admission to the school is an elementary school certificate.

A total of 252 students have obtained their nursing diploma during the last few years; 3 of these, who attended all the courses with proficiency, have reached Grade III, and 23 have reached Grade IV. The grades begin at VII.

A director, who is also the director of the hospital, is in charge of the school together with a group of doctors who are particularly experienced in teaching. Two hours of lectures are generally given each day.

For practical teaching reasons and also because of the lack of appropriate text-books, lessons are transcribed on a blackboard and then copied by the students.

The curriculum consists principally of general elementary lessons on hygiene and infectious diseases; anatomy and physiology; general pathology; pharmacology; first aid; venereal diseases; ophthalmology and nursing.

During the course the students take turns at hospital duty in the different hospital departments, namely; three months in the medical department, two months in the operating room, two months in the dermosyphilology department, one month in the ophthalmology department, and one month in the laboratory.

As regards the standard of efficiency reached by the students, 10 per cent of the male nurses attain a sufficient degree of general knowledge and professional practice to be appointed to the outlying first aid posts and small rural dispensaries. They are, in fact, capable of recognising and
diagnosing the chief infectious diseases and of applying the isolation measures necessary pending the arrival of the doctor, as well as giving elementary care and treatment to the patients.

2. Medical Assistants’ School

A school for medical assistants was recently established (14 September 1951) at the De Martino Hospital. The course will last two years and will be open to hospital attendants who have had at least two years practical service and who have passed a special proficiency written and oral examination.

Training courses will be given at the De Martino Hospital and will consist of theoretical lessons and practical work aiming chiefly at teaching the students first aid, general nursing, epidemiology and prophylaxis of the principal and most common infections and contagious diseases in Somaliland.

The theoretical lessons cover the following subjects:

1st year: first principles of human anatomy, physiology, surgical pathology, medical pathology, medical and surgical semiology, symptomatology, hygiene, epidemiology and prophylaxis of infections and parasitic diseases and venereal diseases.

2nd year: first principles of regional anatomy in relation to traumatology, forensic medicine (medical reports), pharmacology (principal medicaments, narcotics, poisons, dosages, local medical plants), medical pathology, elementary differential diagnosis, general pathology, elementary entomology, child care and principal infant diseases, laboratory and main research methods.

Practical training covers the following sectors:

1st year: first aid, operating room, medical surgery and surgical consulting.

2nd year: laboratory, medical surgery and surgical consulting, meat inspection.

An examination is held at the end of the course, and the successful candidate obtains the diploma of medical assistant.

The first course began on 15 November 1951 and 20 students who have passed their entrance examinations are now attending.

There are no indigenous doctors in Somaliland, nor is there any likelihood of obtaining Somali fully qualified medical personnel in the near future.

In fact, at the present, the highest classification attained by the Somali is promotion to the second class of the junior high school. The opening of a four-year course is envisaged when the schools start supplying a
large and regular contingent of boys with primary certificates. This course, combined with a certain number of years of practical training, will permit increasing and improving the auxiliary medical personnel still further. At least another 12 years will supposedly be needed before students will graduate from the secondary schools qualified to take higher level medicine studies.

No university is envisaged for Somaliland. The students will have to go abroad under some suitable financial agreement to finish their studies.

D. HYGIENE AND PROPHYLAXIS LABORATORY

At Mogadishu, under the direction of the Central Health Authority, there is a hygiene and prophylaxis laboratory (Central Pathological Laboratory). This is the only one for all Somaliland and is divided into two sections; (a) Medical section with attached diagnosis service and (b) Chemical section.

The Medical section is superintended by a pathologist who has a native (Grade III) medical assistant to help him and three hospital attendants as laboratory assistants. The Chemical section is superintended by a chemist who has a technical assistant (Grade IV) to help him and two hospital orderlies.

The Laboratory effectuates:

a. diagnoses of infectious and social diseases.
b. hygienic and sanitary inspection of foodstuffs and water.
c. clinical analyses and cystopathological tests for hospital patients and private individuals, since there are no analyists in the hospital laboratory and no independent doctors practising in Somaliland.
d. analyses required by the Mogadishu dispensaries and other health units in Somaliland.

Laboratory work last year covered approximately:

1. 7,000 blood seroanalyses (Kahn standard) for syphilis, with 27 per cent positive reactions for syphilis or yaws.
2. 3,000 urine analyses with 8 per cent positive reaction for bilharzia.
3. 6,000 faeces examinations in which 15 per cent gave positive reaction for amoebic dysentery and 5 per cent for ankylostomiasis.
4. 250 water analyses, all negative as far as Salmonella pollution was concerned. (Up to the present there have been no cases of infection in Somaliland of the native typhoid or para-typhoid group. A few rare positive cases have been found in individuals coming from Europe or Kenya).

The laboratory also undertakes very competently: physiochelical and bacteriological examination of blood; exudates and transudates; immunity reactions; different biological reactions; bacteriological research; protozoology and entomology research; and the preparation of autovaccines.
E. SERA AND VACCINE PRODUCTION

The Sera and Vaccine Institute1/ in Merca produces inter alia the Jenner vaccine and anti-rabies vaccine for human and veterinary use. In 1948 it produced 94,000 doses of smallpox vaccine and in 1949, 2500. The smallpox vaccine is free. The Institute is also being equipped for the production of snake bite serum for the poisonous snakes most commonly found in Somaliland.

F. MATERNITY AND CHILD WELFARE

Infantile mortality in Somaliland is one of the most serious problems which requires close attention. Unfortunately in Somaliland there are no regular censuses, vital statistics offices, or regular declarations and registrations of births and deaths.

There have been very few enquiries made by doctors or Administrative authorities, and none of these enquiries have been recent. However, notwithstanding the years that have elapsed, the local social and epidemiological conditions have remained practically the same, as the following particulars would indicate:

Doctor Menonna at Brava one of the cleaner and more orderly towns having about 5,000 inhabitants, reported in 1929 that there were 144 marriages and 57 divorces. 135 children were born, 17 of these were stillborn; 31 died within the first two years after birth; and 120 died between the ages of two and ten years; in all 168. The birth rate was 29 per 1,000; the mortality rate up to 10 years was 45 per 1,000.

Colonel Moise at Villaggio Duca degli Abruzzi, from 1932 to 1934 carried out a survey covering, 1,367 peasant families to ascertain how they were composed and obtained these results:

| Families without children | 550 (40.40%) |
| Families with one child | 437 (32.00%) |
| Families with two children | 203 (14.60%) |
| Families with three children | 122 (9.00%) |
| Families with four children | 37 (2.70%) |
| Families with five children | 15 (1.15%) |
| Families with six children | 3 (0.25%) |

On an average there were 1.06 children per family.

On the other hand, to ascertain the number of wives out of 1,578 peasants, it was learned that, of the men.

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1/ The Institute personnel comprises:
   a. a veterinary surgeon superintendent who is a university instructor in colonial pathology.
   b. two assistant veterinarians.
   c. a European laboratory expert.
   d. an administrator.
   e. 21 indigenous veterinary supervisors specially trained in laboratory work and the production of vaccine and sera.
13.37 per cent were bachelors
64.70 per cent had one wife
19.90 per cent had two wives
1.50 per cent had three wives
0.50 per cent had four wives

Colonel Moise then carried out another type of survey in the same region of Villaggio Duca degli Abruzzi. He put some very simple questions to a large number of women. These questions were extremely easy so that there was no difficulty in understanding them: the number of births for each woman, if the births were alive or dead, the number of children actually alive. The women in question were of different origin and all of child-bearing age. This survey gives an approximate idea, therefore, of the birth rates, child mortality rates and stillbirth rates in Somaliland.

It should be borne in mind that it is usually very difficult to get the natives to make a regular report of the demographic changes which take place in their own families, particularly when it is a question of the birth of their children.

3,188 women of varying origin, social and living conditions and age (young and middle aged) were interrogated. It was found that 123 women, although married for several years, had not had any children. Therefore the sterility percentage was 3.8. A total of 11,235 pregnancies was reported. Considering the number of women questioned, the number of confinements per woman averages 3.5 per cent. Abortions during advanced pregnancy, together with stillbirths, amounted to 1,188. The stillbirth mortality percentage reaches 10.5.

Of the 10,047 live births, at the time of the survey 4,759 were still alive, whilst 5,288 had died, nearly all in early infancy.

The infant mortality rate reaches 52.6 per cent of the total of the live births. It may be deduced that in this particular region of Somaliland each woman has had an average of 3.15 children, but of these only 1.48 have survived.

The five years' statistics (1946-1950) at the maternity ward of the De Martino Hospital at Mogadishu, mentioned previously indicate that between abortions, premature stillbirths and deaths after birth at the hospital, there has been a loss of life equal to 38 per cent of the live births.

These figures are also very approximate since very few women have their confinements in hospitals.

There is every reason to believe that infant mortality in Somaliland is very high. At the same time the number of stillbirths is considerable, exceeding 10 per cent of the number of pregnancies, while abortions are also very frequent and may be estimated at 20 per cent of the number of pregnancies.

There are many causes for these high losses; from the lack of hygiene from the very beginning of pregnancy and want of midwife attendant at confinement (in all Somaliland there are only eight midwives; and, until now, it has been too difficult to establish a midwifery-school since none of the women has a diploma or even sufficient elementary knowledge to derive any benefit from lessons) to the
irrational methods of nursing the baby.

Naturally for the same reasons and the complete lack of hygiene, many women die in child-bed.

The Somali baby is exclusively breast-fed for a very short time only. After the first few weeks, even though there is no need (as the mother usually has plenty of milk), cow's milk or camel's milk is also given and is not always suitably diluted. At the same time plenty of butter is given since it is supposed to make the baby strong and sturdy. This butter frequently causes enterocolitis and often results in death. Another item in the infant's diet used extensively from the very first weeks is tea. Starting from the sixth month the child is given rice, polenta, ground maize and durra.

Furthermore, the Somali do not have a special diet for infants after they are weaned. They eat the same food as adults, the only difference being a smaller quantity.

When possible, they eat roast meat, fruits and vegetables but rarely touch eggs, and only certain tribes consume a small amount of fish. The most frequent disorders of children and nursing infants are the common exanthematic diseases, with frequent cases of chicken-pox and measles. Whooping cough and bronchial asthma also often occur, even in nursing infants especially during the wet season. Intestinal disorders are very frequent: colitis, enteritis, gastroenteritis and also bronchial troubles. There are also many cases of capillary bronchitis and bronchopneumonia, especially among nursing infants. Tuberculosis chiefly affects the lymphatic glands and the bones.

Congenital syphilis is prevalent. Among older children there are often cases of blennorrhoea and vesical bilharziasis.

Intestinal parasitism is widespread, (ascaris, or common round worm, oxyuris or thread-worm, lamelia flagellates, anchlostoma), but the amoebic forms are not common.

Often cases of advanced anaemia can be observed, frequently following malaria.

There are cases of dermatomycosis and pyodermatitis and, in older children, cases of tropical ulcers and recurrent fever from ticks.

Finally, there are very many cases of burns, sometimes very large and serious, inflicted by the mullahs to cure the children of their ailments.

It is amazing how often the parents resort to the mullahs to treat their children despite the fact that they are charged for this treatment while medical attention is free.

The De Martino Hospital in Mogadishu is equipped with a special maternity ward, a gynaecological ward and pediatrics ward, with a total of 100 beds. A surgeon, an obstetrician and a paediatrist are in charge of this division.

Mogadishu is further provided with four surgeries for maternity and child care, all superintended by a paediatrist who attends each in turn at fixed hours. Both the hospital wards and surgeries are equipped with ample staff and enough medical sup-
plies to meet requirements.

G. MENTAL HEALTH

Apart from erethistic attacks and luetic psychoses, the percentage of mental patients is under 0.25 per thousand.

Before the war a neuropsychopathic 50-bed hospital was located in the neighbourhood of the present sanatorium.

In 1941 the forementioned institution was used as a female prison and the few patients were transferred to a ward in the De Martino hospital. At present this department has 29 beds, 18 for men and 11 for women. In 1949 a total of 138 patients were admitted and 79 per cent were discharged.

No formalities are required for the hospitalization of patients who are suspected mental cases. The doctor who examines them makes out a certificate for their hospitalization in the psychiatric ward. The patient is usually taken to the hospital by his relatives who, if necessary, may ask for help from the Somali police and for an ambulance with trained attendants from the De Martino Hospital.

Once in the ward, the patient is kept isolated for a few days under observation for a required period. During this time the usual laboratory tests are made: serologic diagnosis of syphilis, hemocytometry, the presence of hematic parasites, faeces and urine analysis, examination of the cephalorhachidiam fluid and, if necessary, the x-ray examination of the cranium.

As soon as the patient improves and at least acquires family consciousness, the relatives are called at once to fetch the patient who is entrusted to their care.

The ward is attended by one specialist director, three male nurses for the male section and two nurses for the female. With the exception of the doctor in charge of the ward, the remaining personnel have no specialized training and have followed no special course. The hospital management has, however, taken the greatest care not to transfer personnel from their departments; for this reason the doctor in charge has had the opportunity of gradually training his personnel both in theory and practice; therefore the nurses are considered to have more than sufficient theoretical knowledge and, in the performance of their practical duties, a calm and careful manner.

H. HOSPITALS

In Somaliland at the present moment there are 9 hospitals, 15 infirmaries, and a leper settlement, with a total of 1,616 beds (another 95 beds will be ready shortly), and 45 dispensaries.

1. Principal Hospitals

312
<table>
<thead>
<tr>
<th>Year</th>
<th>Beds</th>
<th>Patients</th>
<th>Days in Hospital</th>
<th>No. of days In Hospital</th>
<th>Beds Occupied (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>1,460</td>
<td>14,142</td>
<td>217,482</td>
<td>15.38</td>
<td>40.8</td>
</tr>
<tr>
<td>1949</td>
<td>1,480</td>
<td>13,252</td>
<td>210,974</td>
<td>15.85</td>
<td>39.0</td>
</tr>
<tr>
<td>1950</td>
<td>1,600</td>
<td>15,432</td>
<td>376,789</td>
<td>24.41</td>
<td>64.5</td>
</tr>
</tbody>
</table>

Three of these hospitals are at Mogadishu.

1. a general hospital, the De Martino, with 762 beds.
2. a sanatorium and infectious diseases hospital, the Principe di Piemonte, with a total capacity of 250 beds.
3. a maternity and child welfare hospital, the Raya, for Europeans only.

In 1950 patients at the De Martino Hospital totalled, 7,368, amounting to 216,240 days spent in hospital and an actual bed occupancy of 77.7 per cent with an average hospitalization time of 27 days. Whilst in the Principe di Piemonte Hospital the number of patients was 1,006 during a total of 62,598 days stay, with an average hospitalization time for each patient of 62 days and with a bed occupancy of 86.5 per cent.

Ninety-eight per cent of the hospital services for the Somali are free, there being only 10 beds for which payment is required.

At the De Martino Hospital the staff is made up of 13 doctors (two of whom are army doctors) one director, one chief surgeon, two assistant surgeons, one chief medical officer, one assistant medical officer, one chief obstetrician, one chief dermatologist, one chief dermosyphilographer, one ophthalmologist, one radiologist, one neuro-psychiatrist, one dentist; 101 hospital attendants (including 4 Europeans and 15 nurses); 95 subordinate non-qualified staff. Therefore, a doctor to 60 beds (or rather 76 beds on excluding the director, the radiologist and the dentist).

At the Principe di Piemonte hospital there are three doctors: two for the tuberculosis patients (1:100) and one for patients with infectious diseases; 26 nurses and 41 unqualified subordinate staff.

Average cost of upkeep per bed is as follows:

General expenses: So. 4.50; food: So. 2.50; medicine: So. 6.0; Total: So. 13.0 per bed per day.

Hospitals do not have their own budget. The Hospital Administration prepares annual estimates of expenditures and receipts, and the AFIS on the basis of these estimates grants quarterly advances of funds. An account is kept of expenditure items.

All receipts - hospitalization charges, special examinations (e.g., x-ray), payment received for medicaments, fees for laboratory analyses - are turned over to the AFIS treasury.

The total expenditure incurred by the De Martino Hospital for the year 1950-51 amounted to So. 801,550. This sum, however, does not include the expense defrayed
directly by the AFIS for the payment of salaries to doctors, nurses and full-time personnel, nor the cost of medicaments also paid directly by the AFIS.

2. **Secondary Hospitals**
   
a. **Midjurtein Commissariat**: one hospital of 32 beds at Bender Cassim with one doctor, six male nurses and 10 unqualified subordinate staff.

b. **Mudugh Commissariat**: one 22-bed hospital at Baidoa with one doctor, three male nurses, one midwife and seven unqualified subordinate personnel.

c. **Upper Juba Commissariat**: one 72-bed hospital at Galcaio with two doctors, 14 male nurses, two midwives and 16 unqualified subordinate personnel.

d. **Webbe Shibeli Commissariat**: two hospitals.
   
i. at Villabruzzi with 49 beds: one doctor, one midwife, seven male nurses and eight unqualified subordinate personnel.

   ii. at Belt Uen: 52 beds with one doctor, eight male nurses and ten subordinate personnel.

e. **Lower Juba Commissariat**: one Hospital and Kismayu with 72 beds, two doctors, ten male nurses and 15 subordinate personnel.

f. **Bianchi Leper Settlement.** This agricultural settlement on the island of Alexandra in the left arm of the Juba has been in existence for about the last 30 years and shelters all the lepers of Italian Somaliland. At present there are 139 inmates, of whom 61 are women and 12 children of lepers who were born and have always lived in the settlement, all suffering from leprosy.

   The colony is superintended by a doctor who is assisted by an Italian male nurse, three natives, two orderlies, a cook, a laundryman and a disinfector.

   A 10-bed infirmary provides for hospitalization of the lepers, or those who are affected by intercurrent diseases, and those whose lesions are too serious to permit continuing community life.

   Each leper has a tucul where he lives alone or with his family, and sometimes even with a friend. There is also a mosque in the settlement.

   The inmates have approximately 25 hectares of land at their disposal which they cultivate in the manner which they prefer. The crops are exclusively theirs. These crops (maize, mangoes, pawpaw, bananas) are partly eaten by inmates themselves and partly sold on the open market. The money gained in this way covers the cost of their small personal needs (cigarettes, fute, extras).
The Administration supplies uncooked food which the inmates prepare themselves. The daily ration is 70 grams of sugar, 500 grams of durra, 500 grams live weight of meat (the animals are slaughtered by the inmates in accordance with Moslem custom).

A *futa* is supplied every year to each inmate by the Administration. The leper settlement has a medication room, a kitchen, six showers and adequate number of latrine.

This small community is governed by a chief, also a leper who is elected by the inmates who also have powers to depose him. The present chief is called Hassan Hussen.

He is 45 years of age and has been affected by leprosy for 20 years.

The inmates who wish can marry among themselves. Their weddings are celebrated by the *candi* and unfortunately from these unions the 12 children mentioned were born; owing to the lack of appropriate institutions, these children have remained with their parents and inevitably have contracted the disease.

Water is drawn from a well and conveyed by a windmill to a reservoir and from there distributed to a special water system.

I. RESEARCH AND INVESTIGATION

In collaboration with the Ministry for Naval Defense, with the Ettore Marchiafava Malarial Institute of Rome and with the Italian Trusteeship Administration of Somaliland, a centre for the study and research of malaria, hygiene and tropical pathology has been set up recently in Mogadishu. This centre, which carries on a long tradition of studies in the field of tropical pathology and was started by the Navy Sanitary Corps, does not interfere with nor substitute for any other service already in Somaliland but rather spans an important gap and contributes towards a better harmony between the already existing health organizations.

Its aims are essentially practical, and it provides for the organization of the prevention and control of the principal endemic and epidemic tropical diseases in Somaliland, using standard systems and the best available means. Furthermore, taking into consideration these local conditions, the constitution, mentality and living conditions of the population of the whole territory, this body studies the possibility of improving the hygiene and sanitary situation through improvement in the preventive and welfare system. Its duties, therefore, are:

i) the performance of all activities which in the past were carried out by the Malariology centres and posts set up by Ettore Marchiafava Institute of Italian East Africa.

ii) the epidemiological and nosology (disease classification) investigations with particular attention given to the principal health problems of Somaliland.

iii) practical activities dedicated to the organization for the control
of malaria and other endemic tropical diseases of great social importance in the rural areas of Somaliland; and tentative experiments for the operating of mobile sanitary units.

iv) parasitology research, gathering and classification of medical scientific materials and documentation regarding Somaliland.

v) the study of rural demography and hygiene in the various ethnic and social groups.

vi) eventual contribution of teaching material to the schools for medical assistants and collaboration with international organizations.

The Study Centre has been organized as follows:

1. Laboratory for bacteriology and parasitology, hall for microscopy, entomology and demonstration rooms for seroanalyses.

2. Hall for medical examinations and radiology waiting room.

3. Library and director's office.

4. Darkroom, kitchen, pharmacy, store-rooms, stabling, various services.

5. Director's living quarters.

Scientific equipment, medical surgery equipment, furniture, medical supplies, reagents, reviews and books have all been supplied by the Naval Health Department. The Centre has:

1. Complete laboratory equipment for microbiology, helminthology and entomology and clinical chemistry; vacuum sterilizer; hot air sterilizer; thermostats; centrifuge; precision scales; hellige and photoelectric cell; colorimeters; reagents and chemistry and bacteriology; dies; laboratory glassware, refrigerator and installations for liquigas (gas in containers).

2. Microscopes: two simple microscopes, one binocular microscope, one portable microscope, one for entomology and one for dissection; besides parabaloid condensers and a device for alternating current; warming plate; special light room for drawing; appliances for microphotography with optical bench; instruments for haemotological research (blood tests).

3. Complete equipment for malariological research.


5. Complete equipment for scientific photography with instruments for enlargements, reproduction, developing and printing.

6. Library supplied with modern treatises, mostly foreign, re-
garding various subjects connected with tropical medicine; subscriptions to about 20 technical journals, mostly foreign, and teaching material.

7. Extensive equipment for medical and surgical dispensary with an adequate supply of medicines and dressings.

For the centre to attain its maximum efficiency, it would be necessary to:

i) do small maintenance jobs and make adjustments in the building.

ii) appoint a technical assistant and a secretary.

iii) provide a small motor truck for activities inland and travelling equipment.

However, for the expansion and very existence of the Centre, it is, above all, deemed necessary and earnestly desired that greater interest be taken on the part of the Administration, as well as recognition of the utility of the Centre's work, by a closer linking of the Centre with the Somaliland Public Health Organization.

J. SOCIAL INSURANCE SYSTEM

The Italian government, in order to fulfill its social pledges embodied in the Trusteeship Agreement, has elaborated a program based on a unitarian organization which aims to effect all these various forms of insurance and social security in Italian Somaliland.

In July, 1950 the Administrator issued a special order which set up in Somaliland a service called the "Social Insurance Bank of Somaliland". This service was entrusted to the "Inail" Institute (National Institute of Industrial Injuries) with the object of bringing together under one management all forms of social welfare in Italy and extending them to Somaliland, namely:


2. INAM (National Health Insurance).

3. INPAS (National Institute for Disablements, Old Age, Tuberculosis and Social Insurance).

4. ENDADEP (National Corporation for Welfare of Employees of Civil Institutions).

Consequently, the "Inail" has resumed possession of a building it owned in Mogadishu and adapted it to the needs of the task now assumed and has arranged to obtain adequate equipment for the administrative and health services from Italy.

The medical equipment, consisting of the most modern means, seems to be particularly efficient. It comprises two surgeries, dentistry, otorhinolaryngology, oculist, x-ray, marconi-therapeutic, thermotherapeutic and a sterilizer installation all arranged in spacious, airy rooms which provide the highest hygienic standards. Particularly
important, because of the inadequate water supplies of the country, is an electrical pumping device which ensures a constant supply of fresh water to the dispensaries.

Two additional surgeries are being set up in the Juba and Genale districts and will be enlarged.

At present the "Inail", through the Social Insurance Bank of Somaliland, manages insurance in favour of European workers living in the Territory by virtue of Italian laws in force before the British military occupation which were re-instituted by the Administration Trusteeship.

The equipment described had been arranged in advance in view of the application in the Territory of the law for accident insurance in favour of the indigenous workers, a matter which is imminent since a draft bill has already been approved by the Advisory Council and by the Territorial Commission and will come into force in January, 1952.

This law sanctions compulsory insurance for all workers, without discrimination of race, colour, religion or sex, who are engaged in industrial work; it exonerates workers from any expense, making the employer responsible for the full amount. In every case this law recognizes the right of the injured worker to compensation. It guarantees the injured worker medical attendance up to the time of his recovery, the supply and normal renewal of prosthetic appliances, an indemnity for temporary disability, a pension for permanent disablement with a supplementary payment for an attendant if required, and a capital indemnity for the surviving dependents in the case of death of the injured person.

Consequently, this is a law drawn up in strict observance of the principles and recommendations contained in the International Labour Conventions and one which represents a truly imposing work which can only be seen in the welfare legislation of the most progressive nations.

K. PRINCIPAL DISEASES

While it has been seen that serious social diseases in the endemic and epidemic state afflict a large part of the Somali population, there are no official publications and exhaustive studies on the spread and distribution of the prevalence of these various diseases, on their causes and on the influence of individual and environmental factors.

Purely as an indication we report:

1) Observations made by Dr. Moise during the period 1931-34 in the Villaggio Duca degli Abruzzi. Although these data are not recent, the large number of these observations and the long period under examination give an idea of the health situation in Somaliland.

The Villaggio Duca degli Abruzzi Hospital served, and serves at present, a region with a population estimated at 30,000 inhabitants. During the period in question there was a large migration of the population following a famine and
smallpox epidemic. With a total of 54,000 visits to the dispensary (including hospitalizations), 300,000 dispensary treatments were given:

- **Malaria** - 13,000 cases (26%): 40,000 treatments (13%)
- **Tropical Ulcers** - 15,000 cases (30%): 200,000 treatments (66.6%)
- **General Medical Diseases** - 13,000 cases (26%): 30,000 treatments (10%)
- **Yaws** - 2,500 cases (5%): 10,000 treatments (3.3%)
- **General Surgical Complaints** - 2,500 cases (5%): 10,000 treatments (3.3%)
- **Various Diseases** - 8,000 cases (16%): 10,000 treatments (3.3%)

During the same period, of 552 hospital deaths the causes were the following: smallpox, 215; associated dietary deficiencies, malnutrition, bacillary dysentery and tropical ulcers, 152; pneumonia and its complications, 93; medical and surgical complaints, 92. The smallpox cases treated at the hospital were 717 with a death rate of 31 per cent. Cases of bacillary dysentery were 205 with a 30.7 per cent death rate. Bronchial pneumonia and pneumococca septicaemia, 421; mortality rate, 25.9 per cent.

In the subsequent period at the same hospital, Dr. Lipparoni registered the pneumonia cases which represented 21 per cent of the total deaths (Dr. Moise gives 17 per cent); associated dietary deficiencies, 25 per cent (Dr. Moise, 26.5 per cent); tuberculosis, 7.5 per cent (Dr. Moise, 6 per cent).

At present, hospitalizations are 22 per cent for malaria, 15 per cent for pneumonia, 15 per cent for traumatic lesions and 12.5 per cent for tropical ulcers.

11) In 2,607 visits during the year 1950 in the village of Balad whose territory has a population estimated at 18,000 inhabitants (800 of whom live in the village) Dr. Gentilini found the following diseases:

- **Malaria** - 960 cases (37%): 5.2% in ratio to population
- **Tropical Ulcers** - 626 cases (25%): 3.4% in ratio to population
- **Influenza** - 300 cases (12%): 1.6% in ratio to population
Syphilis - 516 cases (19.5%): 2.8% in ratio to population

Blennorrhoea - 48 cases (1.8%): 0.26% in ratio to population

Amoebic Dysentery - 143 cases (6%): 0.79% in ratio to population

Tuberculosis - 14 cases (0.6%): 0.07% in ratio to population

Therefore, although the total number of new visits and treatments given by the dispensaries are known with sufficient approximation, as can be seen in the following table, it is not possible to have reliable data on the type of treatment and the actual spread of the various diseases, in addition to their distribution throughout Somaliland:

<table>
<thead>
<tr>
<th>Year</th>
<th>First Visits</th>
<th>Total Treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>297,902</td>
<td>783,383</td>
</tr>
<tr>
<td>1948</td>
<td>306,909</td>
<td>769,317</td>
</tr>
<tr>
<td>1949</td>
<td>289,432</td>
<td>853,213</td>
</tr>
<tr>
<td>1950</td>
<td>266,100</td>
<td>935,599</td>
</tr>
</tbody>
</table>

Malaria is very prevalent as in all tropical countries, and the people who are affected by this disease reach a high percentage.

Treatment is usually inadequate (it is well known that the indigenous population will generally not undergo systematic and prolonged cures) and often ineffective as in areas where there is no first-aid point. Consequently this infection constantly undermines the physique of the people, weakening their defensive and reaction powers and making them particularly vulnerable to all other infections. If we add that yaws and syphilis are perhaps even more prevalent than malaria among the Somali and that in certain areas, particularly beside the rivers, ankylostomiasis and schistosomiasis are also present to a very large extent, it is easily understood how the vitality of most of the natives and their resistance to hardship, their energy and all their other psychic reactions are lowered.

1. Malaria

In Somaliland, malaria must be considered as one of the principal problems. It is one of the few diseases that has been sufficiently studied, but at the same time we have no complete data on its spread and the number of persons attacked annually. The whole of the vast Somali peninsula, which is more or less practically covered by bush, is crossed by two principal water courses: the Webbe Shibeli and the Juba, and extends up to the sandy dune coastal belt for about 400 to 500 kilometres.

The malaria specialist is interested in the flow of these rivers which
is of a torrential nature combined with a copious flow and low water which can even leave the river completely dry. Their course flows downwards over the neighbouring terrain in a continual series of bends and loops. The Webbe Shibeli does not reach the sea nor any other outlet but is lost in marshlands in the region of Balli which has not yet been well explored.

Therefore the conformation of the banks and the frequent breaks in the embankments, with the consequent inundations called descek, takes on an enormous importance.

In irrigated areas the primary, secondary and tertiary canals need to be observed in addition to the drainage canals which were rationally built in the European reclamation districts or else built more primitively according to Somali methods. Also to be noted are the practically always dry beds of ancient large rivers (lak) and the small torrents which should have their outlet in the Webbe Shibeli or the Juba during the rains but which usually cannot reach the two big rivers due to their downward flow and thus become marshlands (bohol).

There are also the wells, the more or less perennial springs, and the wadi and the chief torrents such as the Iscia at Baldo, the Nogal at Elle, the Darror and the Almado at Scusciuban. The ground is interesting both from an orographical as well as from a geological point of view, because of the nature of the soil and its degree of permeability. The Somaliland territory can be separated into five geophysical zones:

1. Northern Somaliland (Territories of the Midjurtein and Mudugh).
2. Trans-Juba.
3. Central Somaliland.
4. Coastal belt.
5. River valleys.

Northern and central Somaliland are an arid region with very little vegetation. There are various torrent formations called lak which collect but do not absorb the scanty rainfall because of the clay soil. These laks are formed in such a way that they fill up rapidly, but the water does not remain for long since it evaporates under the high temperature or filters through occasional sandy strata.

Anopheles development in these two regions, due to their physical conformations, is low and naturally limited exclusively to the rainy season. The river valleys and the Trans-Juba which extends between the Juba River and the Kenya boundary and Ethiopia are densely populated. Along the Webbe Shibeli and the Juba Rivers are found most favourable conditions for anopheles development, naturally favoured by the dense vegetation, by the irregular flow of the rivers and by the overflow and flooding of vast areas which turn into marshland. On the other hand, the farms which from necessity have been established near the river and grow irrigated crops by means of an extensive network of canals inevitable contribute to greater anopheles
development. The coastal belt can be considered for the most part non-malarial. The seasons of extensive malarial incidence in Somaliland are:

1. October-December ("Der" season)
2. March-May ("Gu" season)

During these two periods rains are frequent, the rivers are in flood, and there is very little wind, while the humidity is considerable (80 to 85 per cent). Consequently the anopheles incidence rises steeply.

Seasons of low malarial incidence are:

1. January-March ("Jilal" season)
2. June-September ("Hagai" season)

During these two season the rivers are low, there are high winds, the ground is arid, and therefore anopheles are very scarce.

a. Anopheles

As in other regions of east and central Africa, there is a predominance of Anopheles Gambia in Somaliland. It is well known that this species deposits its eggs in various places where water is found, often in temporary rain-water pools with or without vegetation and preferably exposed to the sun. Larvae are often found in small household utensils.

Next in importance is the Anopheles funestus which prefers a permanent breeding place at the edges of torrents and rivers. This species is responsible for malaria at Eile and almost certainly at Scusciuban.

Anopheles pharoensis and Anopheles constani (mauritianus) have been reported along the banks of the lower Webbe Shibell.

Observations on Anopheles squamosus and Anopheles nili have not yet been published. These two mosquitoes were studied in the Villaggio Duca degli Abruzzi region by Dr. Moise who has made an exhaustive personal study of malaria parasitism. Specimens of Anopheles demeilloni have been caught in the wadi of the regions near the Ethiopian boundary.

Nearly all of these species enter the houses. Therefore attention must be concentrated on the oecology of the Anopheles Gambia which is the most prevalent and most dangerous species, almost without exception solely responsible for the transmission of malaria in Somaliland and against which efforts should be directed.
b. Plasmodium

The most frequent malarial parasite found is the Plasmodium falciparum, Plasmodium vivax to a smaller extent and Plasmodium ovale rarely. Plasmodium malariae is very rarely found.

c. Malaria incidence

The following data give an approximate idea of malaria incidence. 1,785 cases of primary malaria were officially reported in 1949 as well as 39,240 cases of remittant malaria. 1,648 cases of primary malaria and 40,450 of remittent malaria were reported in 1950. Since the malaria cases which come under the observation of a doctor are certainly less than half the actual number, the disease is undoubtedly very widespread. By way of comparison, the spleen and parasite indexes found in twenty localities during various periods by Dr. Moise are given in the following table:

<table>
<thead>
<tr>
<th>LOCALITY</th>
<th>No. Tests</th>
<th>Plas. falcip.</th>
<th>Semil.</th>
<th>Plas. vivax</th>
<th>Plas. malariae</th>
<th>Per cent positive</th>
<th>SPL. INDICES</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Villaggio</td>
<td>1,006</td>
<td>503</td>
<td>67</td>
<td>9</td>
<td>237</td>
<td>70.0</td>
<td>64.0</td>
<td>Children from 1 to 10 years. Various periods years 1932-34</td>
</tr>
<tr>
<td>Abruzzi</td>
<td>150</td>
<td>48</td>
<td>-</td>
<td>10</td>
<td>12</td>
<td>44.6</td>
<td>40.6</td>
<td>Older Children July-August 1936</td>
</tr>
<tr>
<td>Genale</td>
<td>51</td>
<td>11</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>27.0</td>
<td>79.0</td>
<td>Young boys 10 years old. Sept. 1950</td>
</tr>
<tr>
<td>Mahaddei</td>
<td>86</td>
<td>9</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>13.0</td>
<td>31.0</td>
<td>Oct.-Nov. 1932</td>
</tr>
<tr>
<td>Bulo Burti</td>
<td>17</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>18.0</td>
<td>30.0</td>
<td>Sept. 1936</td>
</tr>
<tr>
<td>Belet Uen</td>
<td>50</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>4.0</td>
<td>12.0</td>
<td>Oct. 1936</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>22</td>
<td>7</td>
<td>2</td>
<td></td>
<td>63.0</td>
<td>54.0</td>
<td>July 1951-all ages, malaria epidemic</td>
</tr>
<tr>
<td>Callafo</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>11</td>
<td>61.0</td>
<td>44.0</td>
<td>Feb. 1937</td>
</tr>
<tr>
<td>Lugh</td>
<td>32</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>5</td>
<td>22.5</td>
<td>29.0</td>
<td>Feb. 1937</td>
</tr>
<tr>
<td>Bardera</td>
<td>53</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>-</td>
<td>15.0</td>
<td>22.0</td>
<td>Feb. 1937</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>4</td>
<td>2</td>
<td>-</td>
<td>6</td>
<td>23.0</td>
<td>62.0</td>
<td>Sept. 1951</td>
</tr>
<tr>
<td>Gelib</td>
<td>123</td>
<td>31</td>
<td>13</td>
<td>17</td>
<td>24</td>
<td>53.0</td>
<td>55.0</td>
<td>Aug. 1936</td>
</tr>
<tr>
<td></td>
<td>68</td>
<td>28</td>
<td>5</td>
<td>-</td>
<td>3</td>
<td>45.0</td>
<td>93.0</td>
<td>Older boys, Sept. 1950</td>
</tr>
<tr>
<td>LOCALITY</td>
<td>No. of Tests</td>
<td>Plas. falcip.</td>
<td>Semil.</td>
<td>Plas. vivax</td>
<td>Plas. malariae</td>
<td>Per cent positive</td>
<td>Spleen INDICES %</td>
<td>NOTES</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------</td>
<td>---------------</td>
<td>--------</td>
<td>-------------</td>
<td>----------------</td>
<td>------------------</td>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Margherita</td>
<td>49</td>
<td>20</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>45.0</td>
<td>98.0</td>
<td>Sept. 1950</td>
</tr>
<tr>
<td>Gobuenu-Yonte</td>
<td>103</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>16.5</td>
<td>75.0</td>
<td>Sept. 1936</td>
</tr>
<tr>
<td></td>
<td>49</td>
<td>11</td>
<td>5</td>
<td>-</td>
<td>7</td>
<td>40.0</td>
<td>90.0</td>
<td>Older Boys, Sept. 1950</td>
</tr>
<tr>
<td>Afmadu</td>
<td>50</td>
<td>36</td>
<td>9</td>
<td>1</td>
<td>3</td>
<td>74.0</td>
<td>64.0</td>
<td>Aug. 1936</td>
</tr>
<tr>
<td></td>
<td>50</td>
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<td>Malaria epidemic. All ages Sept. 1934</td>
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<td>Malaria epidemic. July 1951</td>
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In a recent publication by Dr. Lipparoni of Villaggio Duca degli Abruzzi the following data were given:

- 1935 .......... 7,832 cases
- 1945 .......... 5,005 cases
- 1946 .......... 1,978 cases
- 1947 .......... 3,170 cases
- 1948 .......... 4,471 cases
- 1949 .......... 3,811 cases

First seven months
- 1950 .......... 2,381 cases

All cases of primary, remittent and reinfected malaria are included in these figures.
The Villaggio Duca degli Abruzzi is located along the course of the Webbe Shibeli River at an altitude of 110 metres above sea level and at a point where the river crosses the zone forming a wide bend which delineates the boundary of SAIS (Italo-Somali Agricultural Cooperative) irrigated district. This district extends down the left of the river, is about 16 kilometres long, 14 kilometres wide and has 10,250 inhabitants, including the indigenous population and Europeans living in the Villaggio Duca degli Abruzzi region. The area also includes the Somali villages of Bender Gedit, Giohar, Bulo Macchina, Bulo Mattoni, Burei, Bulo Eilo. Another 20,000 persons live in the Residency area.

Observations made at the Agricultural Cooperative's weather station provide the following data: the monthly temperature averages from a minimum of 24°C in the month of July to a maximum of 28°C in the month of April. The relative monthly humidity average rises from 68 per cent in the months of January and February to about 80 per cent in the months of May, June, July, October and November. The ten-year rainfall average is 470 mm. annually.

There are two rainy seasons; the great rains in April and May and the small rains in the months of October and November. Showers also occur between the two rainy seasons.

The river has a varying but constant flow from May to March and has two seasonal floods; one from the month of May to June which lasts from a ten-day minimum to a 30-day maximum, and the second which usually starts towards the end of August and peters out at the end of November. During the flood, the water level rises up to 5.6 metres from hydrometric zero; when the water level exceeds the hydrometric level of 4.70 metres it flows over the banks and forms many and sometimes extensive shallow pools which are ideal anopheles breeding places. These pools are found along the borders of the river where the water becomes stagnant and forms a deposit and in the vicinity of the river embankment where the filtration waters collect.

A direct consequence of the overflowing of the river is extensive inundation which spreads over some score of kilometres.

The spleen index of the indigenous population reached 80 per cent up to 1947 while the parasite index varied from 65 to 70 per cent. The disease often attacked young children and caused a seriously-high death rate while adults were affected by a relatively mild form.

In January 1950, after two years of anti-malarial campaigns with residual action insecticides in a group of 42 indigenous children from 8 to 12 years of age who attended the Villaggio school, there was a spleen index of 29.4 per cent and a parasite index of 11.7 per cent, while among the 32 European children living in the Villaggio region there was not one case of malaria from 1947.

Although knowing of the existence of pernicious cases, it was not possible to obtain data on their location and frequency.
The importance of malaria is referred to in old publications of a general nature; for example, studies by Veneroni, Grover, Fadda and Gelonesi.


TEDESCHI & SCALAIS. Contributo alla biogeografia della malaria a Bur Hacaba (Benadir). (Contribution to Biogeography of Malaria at Bur Hacaba (Benadir).) Riv. Malarial. 1934.


MASSA. Malaria Somali e malaria e truppe bianche. (Somali malaria; and Malaria and White Troops). Med. Jurn, mil. 1936.


LIPPARONI, E. Epidemiologia malarica e Lotta antimalarica nella zona del Villaggio Duca degli Abruzzi. (Malaria Epidemiology and Malaria Control in the Villaggio Duca degli Abruzzi Zone). Riv. di Malarial. 1951.
MOISE. Malaria in Somalia. (Malaria in Somaliland). (In the press).

2. Framboesia

Due to its geographical position, its altitude, climate and unchanging environmental conditions, Somaliland is on a par with those other countries where this disease has an outstanding incidence. It may be affirmed, without fear of exaggeration, that tens of thousands are affected. The attention of scientists has been drawn to the subject of this disease, especially from the epidemiological and clinical standpoint, by Dr. Ruperti-Fiera of the Mogadishu dispensary.1/ 

Unfortunately this publication has not been given sufficient attention by the doctors who came to Somaliland after him. They have failed to confirm the wide incidence of this disease in their statistics but have instead continued to diagnose many cases as syphilis. The infantile cases have nearly always been diagnosed as congenital syphilis.

Among the Somali population syphilis should be considered as a more recently imported disease even though its increasing incidence in the principal centres of the Territory is becoming a source of grave concern. Compared with yaws, however, the incidence is definitely lower. This fact may be confirmed by the rather limited number of cases reported in the interior of primary syphilis, tardy lesions in the visceral organs and the nervous system as well as the disease in the true hereditary forms. In the Report of the Italian Trusteeship Administration to the United Nations in 1950, 33 1/2 cases of syphilis and only 170 cases of yaws were reported. A survey made by Dr. Moise at the Villaggio Duca degli Abruzzi over the three-year period 1932-34 which included case histories, microscopic examinations, classification and photographing of lesions, and taking samples for histological examination, indicated 2,643 cases of yaws compared with only a few hundred cases of syphilis.

Apart from any question of major or minor incidences, it suffices to note the large number of skin and skeletal lesions characteristic of yaws shown by the Somali to be convinced of the wide prevalence of this disease in Somaliland. These lesions include characteristic scars which are mostly perioral, acropathy, keratodermia of the soles of the feet and palms of the hand, bow legs and lymphatism.

Apart from the aforementioned skin and bone lesions, etc., cases are frequently reported in which the Somali complains of constant osteo-articular pains as post or recent symptoms. These pains are always connected with yaws. A constant and speedy improvement is obtained with arsenobenzol treatment.

The Somali usually diagnoses yaws by himself and does not consider it a secret disease or one of which he should be ashamed; ambar uarabu is quite different from syphilis or frengi.

3. **Syphilis**

The incidence of this disease is undoubtedly extensive. It is not unusual even for government officers to assert that three quarters of the population is affected by both congenital and acquired syphilis.

In some of the rural dispensaries run by male nurses, syphilis is the most frequently diagnosed disease.

There undoubtedly may be some exaggerations and frequent errors in diagnosis because examination is not followed up by blood tests (in Somaliland there is only one laboratory for such analysis). In addition, syphilis is nearly always confused with yaws. On the other hand, it is also true that venereal diseases in general and syphilis in particular constitute a serious health problem in Somaliland. However, it is impossible to give any reliable figures on its true incidence.

In the 1950 Report of the Italian Trusteeship Administration to the United Nations, 11,332 cases of syphilis were reported. Over 7,000 blood tests (Kahn standard) made in 1950 at the Hygiene and Prophylaxis Laboratory in Mogadishu gave positive results for 27 per cent of the tests. Out of about 1,000 blood tests (Sachs Witibsky-Citochol) recently carried out by Dr. Moise on natives of both sexes, various ages and conditions results were nearly 40 per cent positive.

These figures suffice to show the alarming incidence and probably the continued increase of this venereal disease in Somaliland.

Syphilis patients in Mogadishu are under almost daily observation. At the De Martino Hospital there is a small section for dermatosyphilis, headed by a specialist who also supervises the syphilis dispensary at the same hospital, which is open for a few hours every morning on week days.

In all the other surgeries, both in Mogadishu and in rural centres, syphilis cases are treated together with other venereal diseases that come under the observation of doctors and nurses.

In general, the treatment usually consists of arsenobenzol intravenous injections given by the experienced nurses; but by tradition and routine, injections are only given one day a week. As a result there are always large crowds and the patients have to wait a long time; and while they appreciate the value of the cure, they have not the patience to wait for long periods nor to undertake prolonged and systematic treatment. Consequently they often suspend treatment without becoming completely cured just as soon as the worst symptoms disappear.

In fact, cases of luetic aortitis are frequently observed from x-ray examinations of the chest made for other ailments.

Lastly, sanitary control of prostitution was recently lifted without first making provision for suitably adjusting the regulations governing prophylaxis of venereal diseases. This step has contributed to a still greater prevalence of these diseases.
4. Tuberculosis

One of the most frequent causes of death in Somaliland is tuberculosis. The few reliable data available on the death rate, namely, hospital figures, indicate that in 1949, out of 438 deaths in the hospitals, 178 (40 per cent) were due to tuberculosis, while in 1950, out of 401 deaths, 141 (35 per cent) were caused by tuberculosis.

Taking into account that the indigenous population prefers to die in their homes rather than in hospitals and that consequently many patients, especially those suffering from tuberculosis, often voluntarily leave the place of treatment when the disease is in its last stages, tuberculosis deaths obviously must be higher than the figures given.

In the whole of Somaliland the tuberculosis cases reported totalled 1,785 in 1949 and 1,648 in 1950. Considering the primitive system of reporting infectious diseases, these few figures suffice to show that tuberculosis is widespread in Somaliland and that it seems to be on the increase, aided in its fatal course by well-known social factors, particularly the primitive nature of the Somali dwellings and living habits.

The urban centres consist mainly of tukul, arish huts and a few unsanitary brick houses all crowded together with a few narrow passageways in between. In these dwellings a large number of people live together in one small room and often only have one bed or a few mats. These conditions are an important factor in the spread of tuberculosis.

Even with the nomads, while there are certain factors which do not foster contagion, there are other factors, such as the miserable state of the akal and the nightly crowding therein, which provide favourable conditions for contagion.

The many other chronic diseases which affect such a large part of the Somali population - malaria, yaws, syphilis, ankylostomiasis, bilharziasis - and the children's diseases - chicken-pox, measles, whooping cough - which have a frequent recurrence rate and often are very serious are also factors which foster the spread of tuberculosis.

Chronic malnutrition and, above all, periodic food shortages as well as the lack of hygienic education are all causes which contribute to the prevalence of tuberculosis. The disease occurs in the Somali under all its well known pathological forms: primary, post-primary, exudative, milary, cavitary, combined, and all the vast range of extra-pulmonary localizations.

On the other hand, the anti-tubercular campaign in Somaliland presents serious difficulties because of the low living levels of the people; and only prolonged and active educational measures can bring effective improvement to the situation after social conditions and living standards have been raised.

It is certainly not possible to transform all at once the unsanitary dwellings of the Somali into pleasant modern habitations, the primitive urban centres into modern and comfortable districts or to achieve fully adequate diets.
In the high-lying part of Mogadishu tuberculosis sanatorium was opened in 1941 with 100 beds; these have recently been increased to 200. In 1950, 1,007 patients were hospitalized there for a total of 62,598 days, with an average hospitalization period of 63 days per patient and with an actual bed occupancy of 86.5 per cent. A well-equipped and well-managed ward for surgical treatment of tuberculosis is attached to the sanatorium. An anti-tuberculosis health centre is planned and will soon be ready. Obviously, however, the solution of the tuberculosis problem in Somaliland does not depend on increasing beds and dispensaries but rather on improving the standard of living and the sanitary situation in general.

Although living conditions in the rural districts (not taking into account Midjurtein which has just emerged from prolonged droughts and where living conditions are extremely difficult) are not as bad as in the slum quarters of Mogadishu, it may be assumed that the rural population is also suffering from tuberculosis.

However no figures at all are available with regard to the incidence of the disease in the rural districts.

Before attempting any wider program it is advisable that investigations and research be carried out concerning the actual prevalence of this disease in both the towns and in the rural districts, or at least in certain town districts and in some of the rural centres. For the time being it would be advisable and sufficient for anti-tuberculosis vaccinations to be carried out at least experimentally and especially for the children who are most exposed to contagion.

5. Ankylostomiasis (Hook-worm parasitosis)

This subject has been studied at the Villaggio Duca degli Abruzzi by Mirra, Basile and Moise. There are also publications by Talamonti for Genale and the Lower Webbe Shibeli, by Giunta for the Trans-Juba and, finally a report by Dr. G. Ragazzi to the health inspectorate following an investigation made by a mobile motorized laboratory along the Middle and Lower Webbe Shibeli during the first six months of 1950.

During his stay at the Villaggio Duca degli Abruzzi from 1932 to 1934, Dr. Moise renewed epidemiological investigations to establish the relation between the presence of Ankylostoma and Necator and to study indigenous tolerance to infestation particularly from the practical standpoint.

The Villaggio Duca degli Abruzzi appears to be the ideal environment for Ankylostoma infestation. The soil, the river, the canals, the irrigation system and the indigenous habits all help to keep infestation high. In fact, in the irrigated crop lands of the Villaggio the conditions are such that frequently mass infestation occurs. (This has already been reported among workers of other tropical regions.)

Ankylostomiasis, especially after the survey made by Mirra, caused considerable alarm, and no expense was spared to undertake extensive treatment and to install latrines for the population.
In this research work Dr. Moise set out on the assumption that in many tropical and sub-tropical countries the percentage of Ankylostoma vectors has always been found very high according to observers. At times the percentage of infected individuals exceeded 90 per cent of the population; yet from time immemorial they have suffered from a parasitosis which affects other population groups far more seriously. In the opinion of Dr. Moise it is probable, therefore, that the different races possess a different degree of hookworm tolerance and that this factor should always be considered when the epidemiology of ankylostomiasis is studied in tropical countries.

During his investigations Dr. Moise examined 586 faeces specimens from the indigenous population from different sectors which were apparently free from ankylostomiasis infestation. He found 260 positive results showing Ankylostoma eggs, namely, 45 per cent of the specimens were infested; and he found but 27 cases of ankylostomiasis with marked clinical symptoms.

To establish the relative frequency of Ankylostoma duodenale and of the Necator Americanus, he examined 1,000 worms expelled during the first 24 hours after administering a purgative and found Ankylostoma in 38 per cent of the specimens, Necator in 62 per cent of the specimens.

Dr. Giunta in his investigation made in 1931 in the Trans-Juba pointed out that the lak, uar, deshek and wells play an important part in the spread of ankylostomiasis infestation. He found a very high infestation average everywhere - from 96.5 per cent to 99 per cent - and haemoglobin averages (Tallquist) from 35 per cent to 74 per cent. He attributed considerable importance to infestation in relation to the population's health. During a survey made in 1940 among the villages on the banks of the Webbe Shibeli G. Ragazzi reported that in the Genale district the infestation average was 86.76 per cent, in the other centres 92.97 per cent and in the Villaggio Duca degli Abruzzi 63.72 per cent. He advised sanitary disposal of garbage waste water and latrine waste in the villages; mass diagnoses and treatment.

It is evident, therefore, that ankylostomiasis is very widespread in Somaliland, that it has long been studied by doctors but that the prophylaxis and cure of such an important disease has not yet made any progress. Although examinations in the agricultural regions give mostly positive results, serious clinical cases are not very numerous. Ankylostomiasis requires investigations on a much vaster scale in the various districts and should not be limited to an examination of the faeces to ascertain the presence of eggs. In the meantime, it would be advisable to give mass treatment (carbon tetrachloride and ascaridicides, chenopodium oil) combined with anti-anaemia preparations.

6. Schistosomiasis (Bilharziasis)

Vesical schistosomiasis is an endemic disease in Somaliland. The type so far found is the Schistosoma haematobium; and the presence of Schistosoma mansoni has been ascertained in the Ethiopian plateau.

The scanty water supply and the habits of the people, as well as observances of religious precepts, contribute to the enormous extent towards
polluting the water by faeces and urine. It is well known that the Moslem religion prescribes ablutions after the satisfaction of corporal needs. Therefore the Somali prefers to use the immediate neighbourhood of water-courses, or even the watercourses themselves, as a latrine so that he can better carry out these ablutions. From a personal cleanliness point of view these habits would be excellent, but, unfortunately, they are important factors in spreading schistosomiasis.

Severity of individual cases varies. Some cases follow a very light course with mild symptoms, merely showing without any other evident troubles a slight flow of blood at the end of urinating. In other long-established cases all the urological sequences are found: cystitis, pyelonephritis, retention of urine, urethral contractions, perineal urinous festulae, etc. In addition to the aforementioned local phenomena, a progressive toxic action of the helminth in the body, with gradual loss of energy and anemia, is often noted. This infestation is definitely more frequent in the male.

In the canals at the Villaggio Duca degli Abruzzi where the natives bathe and where infestation in most probably spread, mollusks of the Physopsis genus, probably intermediary hosts of the trematode, were collected. Although having very similar characteristics, they are not to be classified either with the Bullimus of Egypt or with the Physopsis globosa of Equatorial Africa.

At Hugiuma, Margherita and Afmadu infestation is obviously connected with the pollution of the waters in the deshek and the lak.

A survey based on a complete epidemiological plan would be most important and necessary. It is a question of knowing the exact distribution, the intermediate mollusk hosts and their classification, biology and conditions governing contagion. In the meantime it would be expedient to:

a. prevent pollution of irrigation canals by:

1) establishing latrines in the villages and in each dwelling and by accustoming the inhabitants to use these latrines.

2) illustrating the dangers of water pollution with appropriate popular propaganda; if possible with the cooperation of religious authorities and the leaders of political parties. Serious difficulties are encountered in this propaganda work among the local peoples as their intellectual level is very low, and it is very hard for them to understand the value of the prophylactic measures they are asked to observe. In general the Somali does not attach much importance to the troubles caused by schistosomiasis and does not consider it as a real disease until it has reached the stage where it incapacitates him for work.

b. supply non-polluted water to the population for drinking and for personal cleanliness purposes.

c. attempt to destroy the mollusks by:

1) taking advantage of the summer drying up of the irriga-
tion canals and completing this process by treating the remaining pools of water with copper sulphate solutions (1:300,000).

11) closing the entrance to the tertiary canals against the introduction of new mollusks by applying appropriate screens if possible.

It is more urgent, however, to provide treatment for the greatest possible number of infected cases with the use of extensive methods. In this respect antimonial preparations to be taken orally seem the most advantageous because, even though they still cause some discomfort, they reduce the period of cure and simplify treatment.

7. Relapsing Fever

Publications on this subject in Somaliland are many, but many of these reports have a clinical rather than an epidemiological significance. In some of these reports confirmation by blood tests is lacking. They mostly describe relapsing fever epidemics in various regions of Somaliland, their symptomatic and the vector. All authors report *Ornithodorus moubata* and agree that this tick transmits the disease. It has been discovered from the Juba to the Webbe Shibil and from the Ogaden to the coastal towns of Merca, Brava and Mogadishu. These authors - Groveri, Reitano and Parisi, Fadda, Martinelli, Magli, Corrado, Servidori, Bartolucci, Massa, Mennonna, and Modugno - all consider *Ornithodorus moubata* as being the exclusive carrier agent. According to Franchini, these authors hardly mentioned *Ornithodorus savigni* nor, in general, gave detailed descriptions regarding the morphology and biology of the carrier tick.

Mattei, in his publication in 1932 at the Villaggio Duca degli Abruzzi, described in detail the morphology and biology of the two species in question and recognized the widespread occurrence of *Ornithodorus savigni* in Somaliland while he considered *Ornithodorus moubata* more difficult to find. At the same time, like the other authors, he held that *Ornithodorus moubata* was responsible for transmitting the disease. Mariani, Besta and Lipparoni all recognize the importance of both species of ticks in the spread of relapsing fever.

In a recent publication Lipparoni considers *Ornithodoros moubata* as being the natural vector while *Ornithodorus savigni* presumably is an occasional vector. He considers that epidemics are transmitted by the first and that sporadic cases are due to the latter.

It is evident from the many investigators who have studied this subject and from the cases that they have published that relapsing fever is a relatively frequent and widespread disease throughout Somaliland, and that it often takes the form of circumscribed epidemics, especially during the dry season, among shepherds, poor people and Somali soldiers.

The actual cases of relapsing fever are certainly far more numerous than those usually recognized because this disease can only be diagnosed with a blood test. Anamnestic and clinical tests are not easily carried out on the Somalil. Often the disease is not even suspected and is classed...
as influenza or quinine-resistant malaria. It is frequent in Mogadishu.

Ornithodorus moubata is the principal tick vector of relapsing fever in Somaliland, while Ornithodorus savigni plays a secondary part still under discussion. The different habitat of the two species and their respective biological characteristics affect the importance of each of these tick species in the transmission of the disease.

Ornithodorus moubata is relatively rare. Its habitat is sandy or dusty floors, cracks in the ground and in the walls of closed rooms frequented by human beings. (In Somaliland this would mean the Somali dwellings, huts, prisons, mosques and various other premises). Above all, this species prefers living near man and feeding on his blood. Ornithodorus savigni is very prevalent in Somaliland. Livestock markets, the neighbourhood of wells, livestock drinking places in general, stopping places for caravans and the Zeelibe (areas fenced off with dry branches where the livestock is closed in for the night in the Somali bush) are especially infested by Ornithodorus savigni. This tick is rarely found in the dwellings of the indigenous population.

Various authorities have stated that Ornithodorus savigni can transmit relapsing fever. This opinion is confirmed by observations on the conditions governing the transmission of relapsing fever in Somaliland and the epidemiology of the disease in this Territory. According to Brumpt, Ornithodorus savigni cannot retain its infesting capacity for long and, unlike Ornithodorus moubata, does not seem to transmit it to its progeny.

The following conclusions may be reached from a study of the aforementioned publications:

a. that Ornithodorus savigni in Somaliland is widespread.

b. that Ornithodorus moubata should be considered as far less common.

c. that once the possibility of transmission by Ornithodorus savigni has been established the epidemic spread of relapsing fever in Somaliland should be attributed to both species.

d. that relapsing fever may be contracted by day and in the open.

e. that this is a rather frequent infection is Somaliland.

8. Tropical Ulcers

Tropical ulcers represent a social disease of great economic importance for Somaliland. It can be defined as the real disease of physical poverty.

The reasons for this malady are its wide range of diffusion, its chronic nature, its resistance to various treatments, its frequent complications and its sequelae.

In this connection it may be stated that the treatment for tropical ul-
cers represents a major part of assistance given to the Somali in all dispensaries.

Out of 54,000 new patients at the Villaggio Duca degli Abruzzi over a period of three years, 15,000 were affected by tropical ulcers, while out of 300,000 dispensary treatments, 200,000 were exclusively dressings for tropical ulcers.

Clinical observations, bacteriological and histological research as well as therapeutic experience all show that the extent and spread of this disease is due mainly to the poor endurance capacity of the body which has been undermined by the many social and nutritional conditions already mentioned many times and to the various acute and chronic infections.

From an economic standpoint it is obvious that this disease is an expensive item on the health budget because of the endless number of dressings required and because its victims fill the dispensaries and hospitals and monopolize the attention of doctors and nurses. In the case of tropical ulcers also, it may be assumed that an improvement in the hygiene and food standards of the Somali population would bring about a progressive reduction in the disease.

L. CONCLUSIONS AND RECOMMENDATIONS

1. Programme for the Expansion of Health Services

The Italian Trusteeship Administration has drawn up a three-year programme for the extension and development of the Public Health Services and Medical facilities. It envisages:

a. the creation of an anti-malaria section.

b. the setting up of a public health office at each Commissariat.

c. the institution of a school for the gradual improvement in the technical training of Somali personnel.

d. an increase in the number of general practitioners to 55 (at present there are 41) to which another 20 army doctors should be added. Although the latter are intended for specific military needs they can always be assigned to attend to civilian cases if necessary.

e. the raising of the public health budget up to So. 8,000,000. (The 1951 budget amounts to 7,000,000).

f. the setting up of an anti-tuberculosis dispensary in Mogadishu.

g. the establishment of mobile medical units with special technical equipment.

h. the purchase of the following medical equipment:
i) 6 x-ray outfits for dispensaries

ii) 5 laboratories for the Commissariat hospitals.

iii) 10 mobile laboratories for doctors working inland.

iv) 2 disinfection stoves.

v) 4 ambulances with relative instruments for special cases.

vi) a mobile laboratory for epidemiological investigations.

The addition of another 95 beds in the hospitals is also foreseen.

From the examination of the above programme for the development of public health and welfare services it can be seen that there is a tendency in Somaliland to set up clinics to treat people for their ailments, whereas, on the other hand, social and preventive medicine has not been sufficiently emphasized.

It is more important to give more attention to the possibility of preventive treatment.

In fact:

1. It seems difficult to increase the public health budget still further, as in 1951 it was brought up to So. 7,000,000 (equivalent to 350,000 pounds sterling) and represents 13 per cent of the total civil budget of Somaliland. It would rather seem more expedient to economize in the welfare field to obtain a more rational balance between preventive and curative medicine.

2. The intention would be to bring the total number of doctors up to 75. Compared with European countries this figure seems very low in proportion to the size of the territory (500,000 square kilometres) and the population (officially estimated at about 1,250,000 inhabitants) since there would be about one doctor for every 12,000 inhabitants. But compared with other African territories this figure is above the average. For example, in Tanganyika with a population of more than 7,000,000, the number of doctors was 266 in 1949, half of whom were private practitioners. (In Somaliland there are no private practitioners.) This figure indicates, for Tanganyika, one doctor for every 26,000 inhabitants. In French Equatorial Africa in 1948 there were 98 doctors for approximately 4,000,000 inhabitants, that is, one doctor for every 40,000 inhabitants; and in the Belgian Congo in 1947 there were 441 doctors to over 10,000,000 inhabitants, namely, one doctor for 23,000 inhabitants.

In view of the budgetary aspects of such an increase, it is advisable to utilize to better advantage the medical personnel already stationed in Somaliland and to appoint a small number of doctors who have specific training in the public health field.

3. Instead of setting up costly medical units it would suffice
to provide adequate transportation facilities for the doctors attached to the Commissariat and Residency centres and equip them with portable microscopes and the requisite laboratory equipment as is now done for the veterinary service.

4. Instead of instituting a mobile laboratory ex novo for epidemiological research it would be more expedient and less expensive to assign a means of transportation to the Study and Research Centre which is already adequately equipped.

5. As regards the addition of another 95 beds to the hospitals, it is noted that from 1947 to 1951 the number of hospital beds had already been increased from 1,460 to 1,616 (1.6 per 1,000 inhabitants), an increase which seems adequate to meet present needs since actual bed occupancy in 1950 was 64.5 per cent notwithstanding the fact that the average stay in hospital of each patient was rather long - 24.4 days. On the other hand, it is advisable to:

a. create an anti-malaria section.

b. institute a public health office in each commissariat which, for economy, might be put under the charge of the hospital director in the Commissariat provided that he has sufficient experience in public health services.

c. establish an anti-tuberculosis dispensary at Mogadishu.

2. Objectives

After having examined the principal health problems of Somaliland, the existing medical services and the program of their expansion, it is necessary to study the aims to be attained in order to benefit the country. In defining these aims, it should be borne in mind:

1. that the Somali indigenous population is often in a state of chronic malnutrition and from early infancy affected by more than one disease at the same time, (malaria, yaws, syphilis, tuberculosis, bilharziasis, ankylostomiasis, etc.) Their organic constitution which is so undermined, their frequent state of undernourishment, the depressing action of the heat and the climate are all factors which contribute to make it difficult to overcome the sense of abandon and fatalism frequently found among the indigenous persons. This is especially true in regards to health, care of themselves and their families. These conditions also affect their working habits.

While this tendency towards fatalistic simplicity may be chiefly attributed to educational factors, climatic conditions and social state, it is undoubtedly aggravated by their undermined health and their consequently weakened organic constitution which is easily vulnerable to disease and is generally in a state of continual depression and torpor.

2. that the hygienic standards of the Somali are very low.
3. that by and large they are intolerant of long treatments.

4. that public health is called upon to carry out an efficient though economical work in Somaliland and that the improvement of the social conditions of the population depends to a considerable extent on its efficiency.

A principal objective is therefore the improvement of the hygiene and health conditions of all Somali. This, however, is closely linked with the need for raising the standard of their social and economic conditions. In practical parlance the aims to attain are:

1. reduction in the general mortality rate.

2. maximum reduction of contingent mortality in times of epidemics and persistent drought.

3. reduction in the stillbirth rate, infant mortality and deaths in child-bed.

In moving towards these objectives improvements in health organization together with coordination of the different services all working towards the same end are desirable.

All under-utilization of personnel and equipment is to be avoided and, above all, attention should not be given solely to the individual patient as has largely been done so far. Instead attention should be given to the entire population and especially to the factors associated with the spread of disease.

In short, the emphasis of the present Somaliland medical set-up should be shifted from the individual to preventive and social health care. It is particularly essential:

a. In regard to organization;

1. to raise the number of doctors attached to the Health Inspectorate to at least four. Training in hygiene and public health should be obligatory and each doctor should be entrusted with a specific job. These doctors should not be allowed to have any private practise. The Health Inspector should be directly responsible to the Administrator.

2. to attach a small sanitary engineering section to the Public Health Inspectorate.

3. to set up public health offices in all the Commissariat centres.

4. to train Somali personnel as sanitary inspectors for allocation to the Public Health Inspectorate and the Commissariat Health Offices. (Some individuals now employed as hospital assistants or in training could be given specialized training for this work).
5. that the modest needs of the study and research centre and the hygiene and prophylaxis laboratory, in respect of equipment and staff, be met with a view to making their contribution more effective.

6. to give the maximum attention to:

   i) the vocational training of the Somali in the different grades and specialities (nurses, specialized nurses, medical assistants and health inspectors).

   ii) the hygienic education of all classes.

b. To improve the environmental sanitary conditions:

1. In regard to the water supply it should always be remembered that in Somaliland all local water, from whatever source it may come, is probably polluted and therefore non-potable unless it is purified. (Whether purifying is practicable is another matter). Consequently it is necessary to take certain precautions in order to avoid the ever-present pollution risk.

   Wells should always be built according to the best construction methods and their maintenance particularly cared for. Gradually all Somali type wells should be plastered, covered with a waterproof lining and fitted with pumps to bring the water to a special tank for distribution or at least, for the moment, be provided with the minimum precautions to prevent pollution of the water. Where possible motor windmills should be used to pump water in view of the fact that for at least eight months of the year, practically all over Somaliland, advantage can be taken of the monsoons. Gradual steps should be taken to provide a good water supply and, where possible, in sufficient quantity. Obviously a pure and adequate water supply is bound up with the improvement in the hygienic conditions of the population and the possibility of checking certain diseases common to Somaliland such as dysentery, amoebiasis and schistosomiasis.

2. Besides improving the quality and quantity of the potable water supply a sustained effort should be made to:

   i) to educate the people to use and construct latrines.

   ii) see that houses are supplied with a latrine, keeping in mind that pit latrines are suitable in rural areas. The evaluation of possibilities of constructing latrines would be one of the tasks of the Sanitary Engineering Corps.

3. In regard to nutrition, apart from research and treatment of avitaminosis, there is need to start an effective policy in this field and to tackle the problem in all its aspects. The Somali has a diet which is inadequate largely due to poverty and to many deeply rooted traditional habits and ideas which are difficult to eradicate. In this way he foregoes many resources which might give him a more complete and better-balanced diet.

1/ The Centre is, as noted above, principally financed externally.
4. To reduce disease incidence, particularly malaria, yaws, syphilis, tuberculosis, ankylostomiasis and bilharziosis:

i) Malaria. Considering that malaria is the most widespread disease in Somaliland, finding a satisfactory solution is of fundamental importance to the future of the Territory, and therefore this problem should be tackled first. There is no rational anti-malaria organization in Somaliland at present. The only work in this field is assistance given to malaria patients by nurses, dispensaries, first aid posts and the indiscriminate distribution of large quantities of quinine.

In regard to anophele, an effective control of the larvae breeding places appears impossible on a country-wide scale as they are to be found everywhere, especially during rainy seasons. Together with a limited system of drainage it could successfully be put into effect in such localities as Baidoa, Eile and Sciusciuban where malaria is originated by the Iscia, Nogal and Darror torrents which can be easily controlled because of their small volume.

DDT represents the principal weapon in fighting malaria to protect human beings from anophele bites. It should be noted that accurate reports indicate that the present distribution of DDT could be rationally improved.

There is no doubt but that when reclamation methods can be applied more effectively, both in inhabited areas, their vicinity and in the agricultural areas, and when a systematic and rational campaign can be carried out against the anopheles, the infestation index will be notably reduced with immediate economic and social advantages.

The Mission recommends that the Administering Authority request the services of a sanitary engineer expert in malaria prevention from the World Health Organization to study a plan for malaria control with due attention to cost factors.

ii) Yaws and Syphilis. Regarding yaws and syphilis, before undertaking expanded programmes it is advisable to carry out epidemiological research to ascertain the actual incidence and to study the most efficient means of affecting cures on a large scale.

It would be expedient, particularly for syphilis, to set up a specialized dispensary in the centre of Mogadishu in addition to the one which is already operating at the De Martino Hospital. Both should be open to the public every day for at least six hours, four hours in the morning and two hours in the afternoon, as well as mornings on holidays.

In view of the recent abolition of controlled prostitution, it is essential to issue new laws for the prophylaxis of venereal
diseases which would make the cure compulsory and make investigation possible at the source of contagion as has already been done by most countries which have abolished the control of prostitution.

It would also be advisable to request the assistance of the World Health Organization in studying the incidence of syphilis and yaws and organizing rational control measures against both these diseases.

iii) Tuberculosis. The establishment of a specialized dispensary at Mogadishu for tuberculosis seems sufficient at least for the time being, and possibilities of giving vaccinations on a large scale should be investigated, especially for children who are most exposed to contagion.

iv) Ankylostomiasis. While ankylostomiasis infestation is undoubtedly widespread in Somaliland, no decisive steps have been taken for its prophylaxis and cure.

In this connection it would be advisable to request that an extensive investigation be carried out by an expert from the World Health Organization. In the meantime, in areas where its presence has been ascertained, particular attention should be given to the sanitary condition of the ground and the villages; and the treatment of natives with this disease should be initiated.

v) Schistosomiasis. This disease which has long been known in Somaliland has shown an alarming incidence in European-reclaimed districts in the last ten years and, above all, in the zones cultivated by the indigenous population. In this regard the regional office of the World Health Organization in Alexandria has already arranged to send an expert to Somaliland to carry out a complete epidemiological survey.

5. The general medical surgical attendance should assume a more uniform and controlled aspect, adopting these methods which have proved the most efficient and sound and an extensive rather than intensive principle, intensive care being limited to only a few patients. Wherever possible, dispensary and surgery treatment should be increased and hospitalization limited to indispensable cases.

A greater coordination should exist between the centre and outlying districts whose organizations will be given the maximum attention in stepping up efficiency. Where this efficiency cannot be obtained, it would be expedient to withdraw the doctor and revert to periodical visits.

3. Recommendations

In concluding the survey and discussion of the most important health problems of Somaliland, the Mission particularly recommends:
a. That the number of doctors attached to the Central Health Office be increased to at least four; that adequate experience in hygiene and public health be obligatory for these doctors; and that the health inspector be directly responsible to the Administrator.

b. That a Sanitary Engineering Section be set up at the Health Inspectorate.

c. That an expert sanitary engineer, the director of the Research Centre, the health officer of the chief town and a representative from the Agricultural Office be invited to participate in the deliberation of the Health Board.

d. That the Research Centre and the Hygiene and Prophylaxis Laboratory be given more scope.

e. That each Commissariat headquarters be assigned at least two doctors, one of whom should have adequate training in public health problems. They should aid the Commissioner in dealing with matters concerning public health and supervise the efficiency of all hygiene, sanitary and medical services of the district and propose measures for the protection of public health.

f. That the government continue to foster vocational training of the Somali in the different grades and branches of study with a view to establishing auxiliary executive personnel who are competent in public health problems and to staffing the corps of sanitary inspectors.

It is also important that necessary measures be taken by the government as soon as possible, in order to permit qualified Somali to continue their studies in high schools and to prepare, in this way, Somali medical doctors.

g. That particular attention be given to the water supply, making every effort to provide potable water in sufficient quantities to meet the needs of the indigenous population.

h. That the Administering Authority request from the World Health Organization technical assistance for anti-malaria control so timed as to contribute to the work of the Anti-Malaria Service which is expected to be established. The importance of malaria, the control of which costs at present 7½ million lire, as a major public health problem in Somaliland would justify study of the most efficient means of combating it. From a preliminary study of the application of DDT, the Public Health Expert is of the opinion that this better control can be established without entailing greater expenditure.

i. That rural residency doctors be supplied with adequate transportation facilities in order to carry out a systematic supervision and inspection of public health operations under their charge and of the first aid posts directed by nurses.
j. that vaccination against small-pox be intensified.

k. that a special regulation be issued for the prophylaxis and cure of veneral diseases.

l. that first aid posts be set up near the most important wells to provide medical attendance to the nomads as has been done at Tiegieglo.