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CROSS-CUTTING ISSUE FOR MANAGING GLOBALIZATION RELATED TO TRADE AND TRANSPORT: PROMOTING DRY PORTS AS A MEANS OF SHARING THE BENEFITS OF GLOBALIZATION WITH INLAND LOCATIONS

(Item 4 of the provisional agenda)

Note by the secretariat

SUMMARY

Continued strong growth in ESCAP member economies often obscures the geographical distribution of that growth and prosperity, as coastal areas outpace inland centres. A strong driver of this phenomenon has been the clustering of economic activity and service provision around seaports, which in turn attracts economic factors of production, particularly mobile labour, in a self-perpetuating process. Locating well-connected dry ports at strategically advantageous inland locations may stimulate the emergence of local production centres, while adding to growth directly by generating more employment and efficient, and therefore more competitive, exports from, and imports to, the region. The Committee is invited to share their experiences regarding successful development of dry ports, and their potential benefits, and also to provide further guidance to the secretariat on the issues identified in part IV.
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I. INTRODUCTION

A. Globalization and growth disparities

1. Over the past decade, ESCAP member countries have benefited substantially from the process of globalization. While the examples of China and India (where growth rates have persistently exceeded 8 per cent and 5 per cent respectively) are often cited, the Republic of Korea, Singapore, Thailand, and more recently the Russian Federation and the Republic of Kazakhstan, have also performed strongly. Least developed countries in the region have also demonstrated robust economic performance - Bangladesh and Cambodia, for example, are both growing at around 5 per cent annually. Many of these successes have been achieved as a result of highly industrious labour forces being deployed in both agriculture and manufacturing - particularly for export. As a result, increasingly sophisticated Asian exports can be found in markets all around the world.

2. Closer examination of this regional success, however, reveals that, in general, it is the coastal areas of the region that have benefited most, with development levels often declining in areas further away from the coastline. Many factors have influenced this process, including the higher costs of accessing international markets, as well as doing business without adequate connections, which often make inland locations less competitive.

3. Historically, economic growth and trade in countries has been centred around seaports. As this trade has grown, it has attracted to the area both factors of production and a supply of associated services, which in turn have attracted further growth and investment. However, in recent decades most industrialized countries have placed considerable emphasis on the development of integrated transport, communication and energy networks, which provide improved access to inland areas, thereby spreading the benefits of economic growth.

4. With the coming into force of the Intergovernmental Agreement on the Asian Highway Network, and the adoption of the Intergovernmental Agreement on the Trans-Asian Railway Network, Asia has made substantial progress in creating new opportunities to expand the benefits of globalization to inland locations and to a wider population.

5. In 2001, the Ministerial Conference on Infrastructure, held in Seoul, adopted a vision of the region’s future in which an international, integrated intermodal transport network would provide access to all parts of the region, including landlocked countries. Based on the success of the Asian Land Transport Infrastructure Development project (ALTID) in formulating and formalizing the Asian Highway and the Trans-Asian Railway networks as necessary building blocks of the system, the Conference for the first time elaborated on the vision of bringing together the different modes of transport to create an integrated system in the region of ports, railways, roads and inland waterways, and to improve service levels.

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1 See for example, GDP density maps from the G-Econ project of Yale University (Nordhaus and colleagues, 2006 www.econ.yale.edu/~nordhaus/GEcon/Gecon_data_v1.htm).
6. During the Conference the Ministers focused their attention on reducing transport costs. This vision could provide a focus for the development of growth centres away from coastal areas. It creates the opportunity for the same economic stimulus seen at seaports to be harnessed to encourage economic growth at inland locations by acting as a focus for industrial manufacturing and agricultural processing. Promoting dry ports may ultimately be one of several important instruments in this respect.

B. Defining dry ports

7. While various concepts, names and definitions of dry ports and similar facilities exist, for the purposes of the present document the term “dry port” refers to a defined inland location for the consolidation and distribution of goods that has functions similar to those of a seaport, and which includes customs clearance services. Seaport functions that could be expected to be typically present at these dry ports include container (and possibly bulk) handling facilities; intermodal infrastructure connections; a geographical grouping of independent companies and bodies dealing with freight transport (including, for example, freight forwarders, shippers and transport operators); and the provision of accompanying services such as customs inspections, tax payment, storage, maintenance and repair, banking and information communication technology connections.

8. While a large number of container yards and border-crossing points in the region possess many of these characteristics, the secretariat does not envision or expect that all of these will become dry ports by its definition (or its vision of promoting economic growth).

C. Connecting dry ports to the globalization process

9. Establishing dry ports would allow shippers to undertake consolidation and distribution activities as well as export/import procedures at inland locations that are at relatively short distances from factories and farms. Completing necessary documentation and procedures at these facilities could help reduce congestion and delays at border crossings and ports, thereby reducing transaction costs for exporters and importers. This is particularly important for landlocked countries, and is consistent with the objectives of the Almaty Programme of Action.²

10. However, as was the case with economic activity around coastal regions and ports, the dry port could facilitate broader benefits by attracting the same types of associated services and manufacturing, and also potentially nurture the development of manufacturing and service clusters. Such an expansion would be particularly beneficial to small and medium-sized enterprises in providing opportunities for joint procurement, as well as consolidation and distribution services. Figure 1 illustrates the progressive expansion of functions that may grow from dry ports,³ beginning

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² The Almaty Programme of Action was adopted by International Ministerial Conference of Landlocked and Transit Developing Countries and Donor Countries and International Financial and Development Institutions on Transit Transport Cooperation, held in Almaty, Kazakhstan, on 28 and 29 August 2003. See A/CONF.202/3

³ Figure 1 also aims to clarify the nomenclature used to define facilities with different services and functions.
with the location of value added services, such as packaging, labelling and storage facilities, expanding to include logistics services, then broadening even further towards full import/export processing, industrial parks or special economic zones for goods assembly, manufacturing and agricultural processing.

Figure 1. Potential expansion of functions at an inland intermodal facility

Note: The shaded area indicates the minimum services required for a dry port.

11. The success of dry ports in this regard will be conditional upon several factors, including choosing locations that are close to existing or potential production or consumption centres, international demand for local goods, support from national Governments and partnerships between local government and business.

12. While there may be some natural geographical reallocation of resources from coastal regions as manufacturers take advantage of the new inland facilities, tangible new contributions to growth could arise both directly via reduced transaction costs, particularly for exporters (leading to greater export competitiveness), and indirectly via productivity gains as producers organize their manufacturing and distribution more efficiently. Ultimately, dry ports could potentially act as “growth poles” similar to seaports, which could lead to increased employment, higher living standards and improvements in geographic income distribution. This may also have the added benefit of mitigating population migration towards coastal areas.

13. Previous experiences with dry port construction in the region indicate that the potential social benefits exceed the small financial returns from dry ports. This suggests that government leadership

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in areas such as planning, access and connectivity may be important in ensuring the success of dry ports, particularly in the initial phases. While direct employment benefits from dry ports would likely be limited (mostly confined to the construction phase), significant employment benefits may accrue indirectly as additional services are increasingly provided.

14. The development of a network of dry ports as load centres also has the potential to promote traffic on railways rather than roads, which could have significant environmental benefits. This insight has been one of the major driving forces European policy makers’ support of the development of dry ports. For example, Swiss and German estimates\(^5\) of the external costs\(^6\) of freight transport by road show them to be about four times higher than those of rail transport.\(^7\) Increasingly, energy costs have emerged as another important factor encouraging the movement towards rail transport.

**D. Trans-Asian Railway, Asian Highway and intermodal transport**

15. The extensive coverage of the Trans-Asian Railway and the Asian Highway networks across the ESCAP region indicate they may provide a useful “starting point” for considering dry port locations. For example, the Intergovernmental Agreement on the Trans-Asian Railway Network, adopted by ESCAP at its sixty-second session, in April 2006, identified stations with container terminals to handle International Standards Organisation (ISO) containers of at least 20-foot dimension in length. These stations are shown in figure 2.

16. These terminals, with connections to the highway system, may be worth examining as potentially suitable locations to develop a network of dry ports, complemented by similar networks of domestic importance, which could form part of an international, integrated intermodal transport system in the region.

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\(^5\) *External costs of transport (accidents, environmental and congestion costs) in Western Europe; study on behalf of the International Railway Union, Paris, conducted by INFRAS Zurich and IWW University of Karlsruhe, March 2000.*

\(^6\) Including negative externalities due to accidents, local air pollution, climate change impacts due to anthropogenic greenhouse gas emissions, landscape, and up-and downstream effects.

\(^7\) €88 per 1,000 ton-kilometres for road, compared to €19 for freight by rail.
Network development – Bringing development inland

Figure 2. Trans-Asian Railway Network stations with container terminals able to handle ISO containers of at least 20-foot dimension
II. DRY PORT EXPERIENCES AND INITIAL EVIDENCE OF GROWTH BENEFITS

A. Demand and supply conditions affecting dry port construction

17. Approximately 200 dry ports were located in Europe in 2005, providing important logistic services to industry and trade. In the United States of America, there are approximately 370 major inland container depots, and at least 200 smaller ones. Yet, in the ESCAP region less than 100 facilities exist, despite differences in geographical and population sizes, suggesting that, at first sight, Asia may be under supplied.

18. In Asia, much of the discrepancy may be explained by the different purposes for which dry ports have usually been constructed. In many countries, dry ports have been used primarily as a tool to relieve seaport congestion rather than to promote hinterland development. Seaport container throughput therefore is a good predictor of the number of dry ports in many Asian countries – more effective than output measures such as GDP, for example. The secretariat estimates that in the ESCAP region there is approximately one dry port per million twenty-foot equivalent unit (TEU) of containers handled at a country’s seaport.

19. However, this does not reflect the situation across all countries in Asia. For example, in several Central Asian countries there are a number of dry ports where container handling capacity already exists, but many of these facilities are currently underused and in need of modernization. In addition, in India there is much more frequent use of Inland Container Depots (ICDs), with approximately one per 140,000 TEU containers handled at seaports.

20. In Europe and the United States, by contrast, container throughput at seaports is a poor predictor of the number of dry ports in a country, which suggests that, particularly in Europe, both production and consumption centres are important, and that cargo moving through a European seaport typically serves several European countries rather than a single country. The size, output and density of cities (as well as logistic issues) in Europe are also considerably more important in determining the quantity and location of dry ports. For example, there is approximately one dry port for each city with an output exceeding US$ 2.5 billion and where that city services a wider region with output typically around US$ 30-50 billion. Where GDP and population density are very high, dry ports tend to be larger and generally located around 10,000 km² apart.

B. Estimating future dry port requirements in Asia

21. Assuming that Asia will gradually move towards utilizing dry ports to develop hinterlands (rather than constructing them based on seaport congestion), the secretariat estimates that there may be a need for an additional 200 dry ports in the region by 2015 (figure 3), for a total of approximately 312. This estimate is based on (and therefore sensitive to) an assumed transition in the region from a

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8 In purchasing power parity terms.
relationship between number of dry ports and seaport container throughput to one based on the relationships prevalent in industrialized countries (expected purchasing power parity, geography, population and logistics development as discussed in section II.A).

Figure 3. ESCAP estimates of major dry port requirements for Asia in 2015

22. The secretariat considers these estimates to be conservative: the “no transition” case (keeping container throughput as the dominant determinant), yields an estimate of 275 dry ports in 2015. Moreover, if the forecast of approximately 312 dry ports by 2015 proves correct, only two countries, China and India, would exceed the number of dry ports currently in Germany.9

23. Alternatively, if one assumes a faster transition to a situation similar to Europe and makes approximate adjustments for existing and future expected port capacities, long-term demand for dry ports in the ESCAP region could be around 600 to 700. Outcomes in this regard, however, will depend on many factors, including whether government policies are oriented towards the development of dry ports (discussed further in section III).

C. Dry port experiences in developed countries

24. Governments in Europe at the national, and particularly the local, level have successfully promoted the development of dry ports as an ongoing process, with the pace of dry port construction gaining momentum since 1995. In Germany, for example, local governments, in partnership with private businesses, have championed dry port development, often in competition with neighbouring regions.

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9 The secretariat estimates that, by 2015, there may be a need for 130 dry ports in China, 69 in India, 10 in Kazakhstan, 12 in the Republic of Korea, 4 in Sri Lanka, 3 in Thailand, 2 in Bangladesh, and 1 each elsewhere.
25. In the European Union, there is considerable variation in the average size of dry ports (typically 40,000 to 1.9 million TEU throughput per year), land area (typically 30-200 hectares), number of firms (typically 25-100) and overall employment (approximately 7,000 to around 37,000 people).\textsuperscript{10} Highly urbanized countries tend to have more dry ports, but of smaller size – for example Spain (23 dry ports), Belgium (9), Switzerland (4), and Slovenia (3).

26. Even the smallest countries in the European Union tend to have at least one dry port. The rules governing the operation of the common market make dry port operation relatively straightforward, meaning they often service an area that crosses national borders, thereby facilitating optimal location choices without having to consider international access risks.

27. Also in Europe, the concept of “freight villages”, which have functions and facilities similar to those of dry ports as defined in the present document, has recently attracted particular attention. Freight villages can be defined as:

> “…area[s] within which all activities relating to transport, logistics and the distribution of goods, both for national and international transit, are carried out by various operators. These operators can either be owners or tenants of buildings and facilities … which have been built there. Also, in order to comply with free competition rules, a freight village must allow access to all companies involved in the activities set out above. … In order to encourage intermodal transport for the handling of goods, a freight village must preferably be served by a multiplicity of transport modes (road, rail, deep sea, inland waterway, air)”\textsuperscript{11}

28. Trends in North America, Australia and other developed countries are similar to those in Europe, despite differences in political organization, geography and business-related government policies. Australia is increasingly promoting intermodal transport methods to move freight interstate and internationally, with several state governments setting targets for moving freight to rail (typically 30 to 40 per cent of port-related container movements). These policies aim to both improve Australian export competitiveness and reduce import costs; and to strengthen the involvement of inland regions in value-added production.

D. Dry port experiences in the ESCAP region

29. As outlined in section II.A, dry port construction in the ESCAP region has often been driven by the need to relieve seaport congestion. However, India has been significantly different in this regard, with the Container Corporation (“Concor”, a Government of India undertaking) owning and operating over 20 dry ports (up from 7 in 1989).\textsuperscript{12} These dry ports offer varieties of combined services, as well as domestic and international terminals. In particular, dry ports in the New Delhi area

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\textsuperscript{10} Sources: ISL Gutachten (mainly data on Germany, but also other European countries), and websites of freight villages (http://www.freight-village.com), UIRR, and various others.

\textsuperscript{11} See http://www.freight-village.com.

\textsuperscript{12} Concor India, www.concorindina.com
have been growing rapidly. For example, Tughlakabad ICD now runs at the full capacity of 360,000 TEU per year. At the macro level, national development policy in India aims to develop and integrate dedicated rail corridors with multimodal, high-speed services for freight. It also highlights the environmental benefits that will accrue from an integrated national transport system. Moreover, dedicated rail corridors, including those between Mumbai and New Delhi, are seen as key solutions for relieving congestion in Indian ports and servicing the capital territory.

30. In neighbouring Nepal, there are three dry ports: at the border towns of Biratnagar, Bhairahawa (road-based access) and Birgunj (rail-based) to facilitate expeditious clearance of container cargo for import and export. The largest ICD at Birgunj covers almost 38 hectares and has a maximum capacity of 200,000 TEU per year. It is connected by rail with the Indian border town of Raxaul. Birgunj is equipped to provide rail/road transhipment, storage and customs facilities for containerized, break-bulk and bulk cargo moving by rail.

31. In the Republic of Korea, seven dry ports have been built or are in the planning stage. Yangsan ICD was built in 2000 close to Busan Port and is running at its full capacity of 1.4 million TEU per year. Uiwang ICD is located on the Busan-Seoul road and rail corridor and handles around 45 per cent of Seoul-bound container traffic. It has two terminals designed to process 1,000,000 TEUs per year with a capacity of 750,000 TEUs by rail. The Government of the Republic of Korea is planning to establish additional dry ports in the regions of Honam, Youngnam, and the central area of the Republic of Korea, in line with the objective to make the country the international logistics hub of North-East Asia.

32. In Pakistan, a dry port was established in Faisalabad with dedicated road and rail links to Lahore, Islamabad, Peshawar and Karachi. According to the Faisalabad Dry Port Trust, the dry port handled 25,000 full export cargo containers and 5,500 full import containers. The Faisalabad Dry Port Trust provided incentives to exporters and offers concessions in Faisalabad Dry Port Trust tariffs to importers.

33. In Thailand, the largest facility is the Lat Krabang ICD. The plan to construct this dry port was developed in conjunction with planning for the deep seaport at Laem Chabang. Considered a backup facility to serve the rapidly growing industrial expansion of Greater Bangkok, the site was chosen to be close to the Lat Krabang Industrial Estate, approximately 30 km east of Bangkok and 120 kilometres from Laem Chabang Port. The dry port was implemented by the State Railway of Thailand and completed in 1995. Export cargoes shipped at Laem Chabang are consolidated into containers at the dry port and transported by road and rail to the port (and vice versa for imports into Thailand), with container throughput now exceeding 1 million TEUs per year. Lat Krabang ICD also provides international transport and connects to neighbouring countries, including the Lao People’s Democratic Republic and Malaysia.
III. SUCCESSFUL DRY PORT REQUIREMENTS

34. Successful dry port development is dependant on numerous factors, including existing demand for local products in international markets; appropriate delineation of responsibilities and cooperation between authorities (national and local) and local business communities; a conducive business environment for enterprises and foreign direct investment; flexible linkage to international markets through seaports and/or overland routes (allowing for a choice of routes); and a need for a comprehensive and coordinated approach involving government authorities covering trade, transport, customs and communications policies. Two of the more important issues for Governments are explored below.

A. Possible government and private sector roles

35. Successful international experience in seaport ownership and operation reveals a common delineation between public ownership and regulation that is coupled with private operation and management: around 90 of the 100 largest container and seaports globally operate in this manner, including those in Asia. Government involvement has gravitated towards port regulation, improving transport infrastructure linkages to ports and ensuring competition in the sector. As examined above, Asian dry port experiences are more mixed, with various approaches being undertaken (Concor in India is approximately 60 per cent government-owned for example, compared with Kyungin ICD in Republic of Korea, which is approximately 25 per cent government-owned).

36. Seaport management and operations have naturally favoured the private sector, as private businesses have stronger incentives and logistics skills, ensuring they will operate the port more efficiently than government. This has the added macroeconomic benefit of ensuring that ports remain competitive, and that they do not either unnecessarily restrict trade through inefficiency and lack of investment, or make claims on public funds that are better used elsewhere. Differing perspectives in the region on government interventions aside, the development of dry ports should focus primarily on improving the quality of infrastructure and services provided to freight transport customers. Ensuring dry ports are able to succeed in this manner also critically depends on connecting transport infrastructure and trade and transport facilitation services – areas in which Government plays an important role.

B. Building a conducive policy environment

37. Government involvement also leads to formulating and designing a policy environment amicable to development of these inland centres of growth (figure 4). In addition to transport and regional aspects, policies that are directly related, including trade and FDI policies; regulation and competition; and policies affecting the prices of labour, capital and land, need to be coordinated. In fact, the role of a government-private sector “division” of influence in this area is comparable to a division that develops clusters as centres of growth.
38. Some of the potential benefits of dry ports may include: reduced transport costs and resulting improvements in export competitiveness; increased supply and use of logistics and associated services in business; potential employment creation as services are attracted to supply the dry ports; environmental benefits, if a modal shift towards rail is encouraged; and reduced migration to coastal areas.

C. Encouraging comprehensive government involvement

39. A comprehensive and integrated approach across government ministries could help ensure the long-term success of dry ports as inland growth centres. Initially, this may include providing:

   (a) Transport infrastructure connections and maintenance (ministries of transport, finance);

   (b) A conducive policy environment for business (ministries of commerce, trade, finance);

   (c) Government services and facilitation activities (ministries of customs, trade, and revenue authorities);

   (d) Regularly scheduled rail services connecting ICDs to seaports (railway authorities, ministry of transport).

40. As services around dry ports expand and evolve towards export processing and industrial parks, additional government involvement may be required for:

   (a) Appropriate land use planning and zoning (ministry of planning);

   (b) Cost-effective and reliable energy supply (energy ministry);
(c) Cost-effective and reliable water supply (water/public works ministry);
(d) ICT connectivity (ministry of communications, technology).

IV. ISSUES FOR CONSIDERATION

41. The issue outlined in the present document will be a focus of discussion during the forthcoming Ministerial Conference on Transport, to be held in Busan, Republic of Korea from 6 to 11 November 2006. While this initiative may be led by transport ministries in its initial phase when dry ports are being planned, established and connected, an integrated and comprehensive approach across ministries will be necessary to ensure long-term success.

42. Delegates are invited to inform the Committee on progress made in individual countries with respect to the development of dry ports and growth centres away from coastal areas, including illustrating those factors considered to be crucial to success, such as public-private partnerships in development and operations.

43. In addition, the Committee is invited to provide guidance with respect to:

(a) The appropriate roles for national Governments, local governments and the private sector in fostering dry ports as growth centres, including how other ministries and institutions might be encouraged to become involved in exploring the dry ports issue further;

(b) Whether and how the secretariat, jointly with the Asian Development Bank and subregional organizations such as Association of Southeast Asian Nations and others including the Special Programme for the Economies of Central Asia (SPECA), could assist in devising policies on dry port development. This could include analysis and sharing of “good practices”, as well as potential pilot projects to be carried out with member countries.