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**Economic and Social Commission for Asia and the Pacific**  
Working Group on Dry Ports

**2nd meeting**

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Item 7 of the provisional agenda\*

**Consideration of regional framework for the planning,  
design, development and operation of dry ports of  
international importance**

**Regional framework for the planning, design,  
development and operation of dry ports of international  
importance**

**Note by the secretariat**

*Summary*

The present document contains an introduction of the rationale underpinning the work of the secretariat towards developing a regional framework for the planning, design, development and operation of dry ports of international importance. The crucial role of dry ports in creating the conditions for the emergence of international intermodal transport corridors and rebalancing the transport task of land transport networks towards more environmentally friendly modes is stressed. The Working Group on Dry Ports may wish to adopt the proposed draft regional framework, annexed to the document, which offers practical solutions and modalities for the coordinated development of dry ports across the region.

**I. Introduction**

1. The Ministerial Conference on Transport at its third session, held in Moscow in December 2016, reiterated the importance of integrated intermodal transport systems for achieving sustainable transport connectivity in the region. In that regard, it underscored the importance of cooperation between countries in establishing and operationalizing intermodal transport corridors as a key element in the implementation of the Regional Action Programme for Sustainable Transport Connectivity in Asia and the Pacific, phase I (2017-2021).

2. Further, the Ministerial Conference recommended that, in the implementation of the Regional Action Programme, priority should be accorded to (a) comprehensive corridor plans and connections between

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\* E/ESCAP/DP/WG(2)/L.1.

national transport infrastructure development plans; (b) harmonization of construction standards, technical norms of transport means, transport policies and regulations on the basis of the Intergovernmental Agreement on the Asian Highway Network, the Intergovernmental Agreement on the Trans-Asian Railway Network and the Intergovernmental Agreement on Dry Ports; and (c) development of multilateral transport facilitation agreements suitable to the region and connections between bilateral and subregional transport facilitation agreements.

3. As a link in the transportation chain, dry ports have proved to have had a positive effect on the efficiency of the transport and logistics process. Well-managed dry ports, particularly those located at a significant distance from a seaport, help reduce transportation costs and total transit time. This feature is particularly important for the Asia-Pacific region, which has vast hinterland areas and 12 of the world's 30 landlocked countries. Where they have been successfully established, dry ports have increased logistics efficiency and allowed a modal shift from roads onto rail or inland waterways, thereby supporting policies aiming to reduce carbon emissions within the logistics chain. At the same time, a number of dry ports have provided valuable space for a range of value-adding logistics services, allowing some of them to turn into large logistics park or become the nucleus for special economic zones.

4. In the Asia-Pacific region, after a phase that focused on the development of maritime ports, transport development has started to move inland. Thus, in India (facilities by the Container Corporation of India), in the Republic of Korea (Uiwang Inland Container Depot) and in Thailand (Lad Krabang Inland Container Depot), dry ports have appeared as a way to collocate transport and logistics services close to or within manufacturing clusters. In China too, investment has been channelled into developing a network of dry ports with similar logistics offerings under both public and private initiatives. However, most countries of the region are at the beginning of the process.

5. Enhancing regional connectivity will partly depend on the efficient interconnection of dry ports which, in turn, will require a degree of consistency among them in terms of the services that they provide, their location in relation to trade-generating industry, and their transport connections. Following the signing and subsequent entry into force of the Intergovernmental Agreement on Dry Ports, the secretariat is implementing follow-up activities to ensure its efficient implementation. In this regard, the regional framework for the planning, design, development and operation of dry ports of international importance has been developed to facilitate the identification of a common approach across the region.

## **II. The role of dry ports in facilitating seamless and sustainable connectivity**

6. There is growing recognition that the provision of seamless and sustainable connectivity in support of market integration and economic dynamism may offer a way forward to meet demand for the mobility of goods and people while reducing the environmental impact of the transport sector.

7. The concept of seamless connectivity conjures up a vision of an integrated transport system that allows goods and people to travel efficiently and effortlessly across modes and national borders. It requires policies to be coordinated, infrastructure gaps to be filled, technical standards to be harmonized, operational procedures to be synchronized, information and communication systems to be developed and deployed and cross-border

legislation to be aligned. The tools used to test these requirements are international intermodal transport corridors that incorporate different modes of transport, consider the development of adjacent land, connect industry clusters, synchronize supply chains and, most importantly, serve the lives of communities, small or large, along the way.

8. A key prerequisite for the successful operation of these corridors is the development of intermodal facilities as critical centres where the numerous technical, operational and institutional interfaces that characterize the corridors are managed efficiently to ensure that freight can switch modes without delays or damage, regulations and procedures can be speedily and efficiently processed, and associated services can be delivered. Dry ports are designed to fulfil these functions.

9. Indeed, developing dry ports may create economic stimuli by attracting manufacturing, agricultural processing and associated activities. Transport and related services, such as freight-forwarding, logistics, customs and sanitary services, would be available at these facilities. Other value added services would include storage, warehousing, packing, grading, labelling and distribution. In addition, dry ports could grow into special economic zones with a much broader industrial and service base. Similar growth potential has existed around seaports that have brought prosperity to coastal areas by clustering economic activity and services, which in turn have attracted further economic factors of production in a self-perpetuating process, such as a constant pool of mobile and well-trained labour.

10. Dry ports are an essential part of an inland trade distribution system, and although related facilities bear different names across the region, they all share the common characteristic that their main functions are to complete customs and other border-crossing formalities for traded cargo and to transfer this cargo between the different modes used for transportation between a port origin and an ultimate inland destination, or vice versa. In this respect, in acting as a conduit for international trade between trade origins and points of destinations or seaports, dry ports – in particular, rail-connected dry ports – are essential for landlocked countries.

11. In addition, dry ports can play an important role in rebalancing the transport task of land transport modes. Well-managed dry ports, particularly those located at a significant distance from a seaport, help reduce transportation costs and total transit time. Experiences from outside the region show that successful dry ports have increased logistics efficiency and allowed a modal shift from roads onto rail or inland waterways, thereby supporting policies aiming to reduce carbon emissions within the logistics chain. In many countries in the Asia-Pacific region, dry ports and their associated transport links function as a conduit for international trade between inland points of origin or destination and seaports.

12. The Intergovernmental Agreement on Dry Ports, which entered into force in April 2016, was developed under the auspices of the Economic and Social Commission for Asia and the Pacific to provide a uniform definition of a dry port of international importance, identify the network of existing and potential dry ports of importance for international transport operations and propose guiding principles for their development and operation. The main objective of developing a regional dry port network is to expand trade opportunities by facilitating the uninterrupted movement of trade consignments between dry ports located in different countries. This can be achieved by consigning goods from a dry port in one country to a dry port in another, by minimizing border inspections and delays between the two, and by

carrying out customs and other border-control formalities and securing the release of goods at the destination dry port.

13. However, the interconnection of dry ports requires there to be some consistency among them in terms of the services that they provide, their location in relation to trade-generating industry, and their transport connections. While the Intergovernmental Agreement provides guidelines with respect to all of these factors, it is clear that the facilities identified by countries as dry ports under the Agreement fall within a wide range of types, infrastructure links and service functions. Some do not have the authority or facilities for customs and other border-control functions.

14. The key concept underlying the proposed regional framework is the idea of a network of interconnected dry ports in the Asia-Pacific region. It is envisaged that such a network could be formed from the dry ports nominated for coverage by the Intergovernmental Agreement. Some 150 existing and 86 potential dry ports were nominated by member countries and included into annex I to the Intergovernmental Agreement. This regional framework provides a means of planning their development so that they may follow the same standards and be interconnected in the future.

15. In the regional framework, fundamental issues related to both the hard and the soft infrastructure of dry ports of international importance are identified, and, along with the description of each issue, a related target is proposed for designing or operating dry ports of international importance, as well as processes to follow to reach each target.

### **III. Issues for consideration by the Working Group**

16. The Working Group is invited to consider the attached draft regional framework for the planning, design, development and operation of dry ports of international importance and adopt it as a framework that offers practical solutions and modalities for the coordinated development of dry ports across the region, as a means to (a) facilitate the emergence of international intermodal transport corridors, (b) create the conditions for the establishment and growth of development clusters, and (c) promote greater regional economic integration. The regional framework covers the identification of infrastructure links affecting the efficiency of dry ports, the establishment of technical standards for dry ports, and draft institutional and legal arrangements for their integration into existing land transport networks for international transport operation.

## Annex

### **Draft regional framework for the planning, design, development and operation of dry ports of international importance\***

1. As a link in the transportation chain, dry ports have proven to have a positive effect on the efficiency of the transport and logistic chain. Well-managed dry ports, particularly those located at a significant distance from a seaport, help reduce transportation costs and total transit time. This feature is particularly important for the ESCAP region which has vast hinterland areas and 12 of the world's thirty landlocked countries.
2. Following the signing and subsequent entry into force of the Intergovernmental Agreement on Dry Ports, the secretariat is implementing follow-up activities to ensure the efficient implementation of the agreement. In this regard, the regional framework for the planning, design, development and operation of dry ports of international importance has been developed to facilitating the definition of a common approach to the development and operationalization of dry ports of international importance.
3. The key concept underlying this framework is the idea of a network of inter-connected dry ports in the ESCAP region. It is envisaged that such a network could be formed from the dry ports nominated for coverage by the Intergovernmental Agreement on Dry Ports. Some 150 existing and 86 potential dry ports were nominated by member countries and included into Annex I to the Intergovernmental Agreement on Dry Ports. This framework provides a means by which their development may be planned such that they may follow the same standards and be interconnected in future.
4. The regional framework identifies fundamental issues related to both 'hard' and 'soft' infrastructure of dry ports of international importance, and, along with the description of each issue, proposes a related target to be set when designing or operating dry ports of international importance, as well as process to follow to reach each target.

#### **I. Basic requirements**

##### **Description of the issue**

5. To be able to exchange cargo effectively among themselves, dry ports must satisfy certain requirements as to the basic services they provide and the facilities with which they are equipped in order to provide these services.

##### **Target**

6. Dry Ports should have infrastructure and equipment for the handling, consolidation, storage and modal transfer of containers and other types of unitized cargo. They should also have the authority, capability and facilities for all border clearance of cargo and they should be located within, or close to, concentrations of industry which generate export/import trade with adequate connections to sea ports and other dry ports via rail and road linkages.

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\* The present annex is being issued without formal editing.

### **Process**

7. Dry ports of International Importance should adhere to the guiding principles for the development and operation of dry ports as stated in Annex II to the Intergovernmental Agreement on Dry Ports.

## **II. Dry port location**

### **Description of the issue**

8. The location of a dry port is a major determinant of its operational and financial success, as well as of success in minimizing logistics cost (i.e. overall handling, transport and storage cost between an origin and destination). Dry ports should be located as close as possible to cargo sources and trade generating centres.

### **Target**

9. Dry ports should be connected to cargo sources by short-distance road haulage services (either small breakbulk trucks for de-consolidated cargo or trailer trucks for containers), as transport by road is cost effective for short distances of less than 300 kilometres. For linkages to sea ports or dry ports in other countries, dry ports should be connected by long-distance railway container haulage services as cargoes can be delivered cost effectively by rail transport for distances over 300 kilometres.

### **Process**

10. Transport infrastructure planners should locate dry ports as close to trade generating centres as possible and at adequate distances from seaports and other dry ports to ensure the financial viability of the dry ports and to provide cost effective transport solutions to industry.

## **III. Transport infrastructure linkages**

### **A. Dry port - seaport linkages**

#### **Description of the issue**

11. An Important function of dry ports is to facilitate access to the sea for land-locked countries and the hinterland regions by consolidating cargo and by providing cost effective land transport linkages to seaports. However, few seaports can accommodate full length trains in loading/offloading sidings inside port boundaries. Few, if any, of the region's seaports locate rail sidings close to container stacks adjacent to berths (in most cases they are 500 metres to 2 kilometres away). This results in multiple handling of rail-delivered containers (typically 3 lifts per container to/from stacks as compared with only a single lift for road-delivered containers) and a significant competitive disadvantage for rail.

#### **Target**

12. Port operators need to commit to improving railway access inside seaports. Rail access inside ports should be located as close to the container stacks as possible to reduce multiple handling of containers.

### Process

13. Transport planners in member states should wherever possible incorporate rail access as close to the container stacks inside ports, as possible. In the case of existing ports, improving existing or deploying new rail access inside ports should be given priority.

## B. Rail infrastructure within dry ports

### Description of the issue

14. Rail-served dry ports must be connected to the nearest mainline via a short access line which in most cases will be setup by the concerned infrastructure authorities. The rail network within the dry port should have adequate rail infrastructure to accommodate full length trains.

### Target

15. The railway infrastructure to be provided inside a dry port should allow the receipt and dispatch of full length unit container trains running between a single origin and a single destination, without the need to be broken up or re-marshalled outside of the dry port.

16. Loading and unloading of trains would take place in centrally located sidings comprising at least three tracks, one each for loading and unloading and one for the release and re-positioning of locomotives. The actual number of loading/unloading tracks to be provided would, however, depend on forecast traffic volumes. The container stacks of the container yard would be located either side of the tracks and the paved areas on which the stacks would rest would extend the entire length of the tracks, to allow container handling equipment to discharge and load containers along the length of each train.

17. The length of the loading/unloading tracks is determined by the number and length of the wagons comprising a train. For example, for a train with 40 wagons pulled by one diesel locomotive, the track length required between the track points or switches may be calculated as 660 metres.<sup>1</sup>

18. The design axle load in the rail sidings should be compatible with that of the mainline. In the case of metre gauge railways, this is typically 20 tonnes per axle and for wider gauges, it is generally in the range of 22.5 – 25 tonnes. Even at the lower level, the axle load is sufficient to accept heavy locomotives and wagons carrying two fully loaded 20-foot containers or a single fully loaded 40 foot container.

### Process

19. Dry port planners should ensure that rail served dry ports are equipped with the necessary rail infrastructure to ensure seamless connectivity between dry ports and sea ports and/or other dry ports.

<sup>1</sup> The detailed calculation is: 1 diesel electric mainline locomotive of 22 metres + 40 x 2 TEU wagons of 14.45 metres + 10% allowance for braking = 666 metres.

**C. Road transport linkages****Description of the issue**

20. Dry ports need good quality road linkages to cargo sources and to seaports and/or other dry ports. In case of countries lacking a comprehensive rail network, they also need access to seaports via multi-lane highways. The Asian Highway Network can provide good coverage to the region's dry ports. However, the quality of roads that make up the Asian Highway network varies across countries which can affect transit times and also contribute to congestion on highways.

**Target**

21. Dry port planners need to ensure that there are no missing links in the highway networks linking the dry ports that would prevent seamless transport between dry ports and seaports, or between dry ports in the region. Especially in countries where road transport is used instead of railway transport, to transport containers to seaports. Road capacity bottlenecks that would hinder seamless connectivity between dry ports and seaports need to be eliminated

**Process**

22. Dry port planners should ensure the deployment of adequate primary road links between seaports and inland trade generating centres and dry ports. Any capacity bottlenecks along highways that hinder seamless transport connectivity should be eliminated.

**D. Road infrastructure within dry ports****Description of the issue**

23. The efficient operation of the dry port will depend in large part on the unimpeded circulation of trucks throughout most of the dry port area, except at the intersection with the rail access line, which would need to be protected by automatic level crossing barriers and warning devices.

**Target**

24. The internal roads within the dry port should be constructed with a width of 15 metres, to allow handling equipment and trucks to pass safely. Moreover, the roads should be designed taking into account the axle loads applicable to the local highway system as the trucks delivering break bulk cargo between shippers or consignees premises and the dry ports will have to meet these requirements.

**Process**

25. Dry port planners should ensure that road infrastructure within dry ports are adequate to ensure smooth flow of vehicles operating within and entering and exiting the dry ports.

**IV. Technical standards for dry ports****Description of the issue**

26. Adherence to identical design standards is not necessary for dry ports to function effectively as inter-related components of a regional network, but



there is a need for some consistency among them as to the basic types of services offered and the design of the infrastructure needed to provide these services.

### **Target**

27. In order that dry ports within the network can directly consign and transport cargo from one to another, it will be necessary for them to provide facilities for the:

(a) Handling, consolidation, storage and modal transfer of containers and cargo; and for

(b) Customs and other border control inspection and clearance of international cargo.

28. These facilities should comprise, at minimum of a fenced, customs secure area with a limited number of entry/exit points and with segregation of working areas and entry points for the handling of different types of traffic; A container yard (CY) which can receive and dispatch containers by road and rail, as well as store containers; A container freight station (CFS) in which cargo can be loaded into and discharged from containers; A customs inspection area where cargo may be discharged for inspection; A bonded warehouse for storage of under bond cargo; An administration building of two or more levels accommodating: dry port management, offices for customs inspectors, offices for freight forwarders and cargo agents, offices for banking or financial service providers, and staff amenities (restaurant, etc.).

### **Process**

29. The scale of the necessary infrastructure must be planned in accordance with the projected peak level of container and cargo volume to be handled within the planning horizon (of about 20 years). The areas of the CY, the CFS, and the under-bond warehouse will in particular depend upon projected handling volume, but the area of the CY will in addition depend upon the type of container handling system to be deployed (which itself will be demand driven) and on the length and number of railway sidings to be incorporated in the design.

30. In order to satisfy the requirement to promote environmentally sustainable forms of transport, dry ports will have to provide efficient access to rail. Where relevant, they should also be connected to inland waterway transport landings, quays, etc.

## **V. Container yard capacity and equipment**

### **Description of the issue**

31. The layout of the container yard (CY) depends upon the length of the rail siding tracks as well as the type of handling system to be employed.

### **Target**

32. Generally, the choice of the latter is between a reach-stacker system and portal crane systems, such as rubber-tyre gantry cranes (RTGs) or rail mounted gantry cranes (RMGs). While the former are land intensive (i.e. require more land area to store a given number of containers) and are relatively inexpensive as compared with the latter, the latter systems can accommodate denser stacking of containers and are therefore less land intensive.

33. The choice of handling system will depend in part on the expected volume of containers to be handled. In general, the reach-stacker system is cost effective for CY throughputs of up to 200,000 TEU per year, beyond which a portal crane system may be justified.

34. Whether reach-stacker or portal crane systems are used, it will be requirement for container lifting equipment to work along the length of the loading/unloading tracks.

35. In the case of a portal crane system, the crane will straddle at least the tracks and a roadway, and possibly even the container stack as well. This is because containers may be stacked in dense blocks with very little space in between the blocks.

36. In the case of a reach-stacker system, at least two reach-stacker units will work simultaneously either side of the loading/un-loading tracks, so that the CY will be separated into two paved areas, separated from each other by the tracks. In each section, container stacks will be arranged along the train working length in blocks of about 4 TEU wide, 3 TEU deep and 3-4 TEU high, each separated by a width of 13 metres to allow for the turning circle of a reach-stacker. The actual dimensions of the blocks will depend upon the lifting capacity of the reach-stackers used.<sup>2</sup> The reach-stackers will lift containers directly between wagons and the stacks, thereby avoiding the need to use prime movers and yard trailers, except for re-positioning of containers from the stack or wagons to the CFS or customs inspection area.

37. The annual container throughput capacity of a dry port is determined by the number of times per year on average that its CY storage volume is turned. If the CY storage volume is 1,400 TEU, then the average dwell time for a container cannot exceed 4.5 days if the annual throughput is to reach 100,000 TEU (assuming an operating year of 330 days).

### **Process**

38. In order to minimize costs, the CY would be constructed in heavy duty flexible paving materials, such as interlocking paving blocks, but the pavement must be designed to withstand the heavy wheel loadings of container lifting equipment. For example, the wheel loading of a reach-stacker lifting up to 45 tonnes is 25 tonnes per wheel.

## **VI. Design of other major facilities**

### **Description of the issue**

39. At some dry ports of the region, the facilities such as container freight station (CFS), the bonded warehouse and of the customs inspection area are designed and built without proper consideration of the capacity and/or factual throughput of a dry port in question. It results in hindering the efficiency of operations of such dry ports.

### **Target**

40. The area of the container freight station (CFS), the bonded warehouse and of the customs inspection area will be determined in proportion to the maximum container throughput volume expected to be handled in the dry port.

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<sup>2</sup> In this case, it was assumed that reach-stackers can lift near full loads 4 high to and from the third row of containers in a stack.

The daily number of containers (TEU) to be handled or processed through these facilities will be calculated as some proportion of the expected TEU throughput volume. The floor area of cargo discharged from these containers will be calculated by applying to the TEU volume an average area per TEU of 30 square metres and a traffic circulation factor of 1.3.

41. The CFS should be designed with container bays facing on to a raised loading/unloading platform on one side and truck loading/unloading bays on the other. Containers will be packed and unpacked by forklift trucks while still on their trailers. Similarly, break-bulk trucks will be loaded and unloaded from a raised platform by smaller forklifts.

#### **Process**

42. Detailed requirements for other buildings, such as the administration building, the bonded warehouse, the customs inspection facility, and the security building should be determined through consultations with local Customs staff as well as with freight forwarders and other service providers. The buildings design should take into account the expected volume of containers that will be handled at the facilities.

### **VII. Terminal management IT system**

#### **Description of the issue**

43. Application of real-time container and other cargo tracking systems based on information technology can increase reliability and security of goods transport operations between dry ports and seaports, thus allowing simplification of customs and other control formalities at dry ports.

#### **Target**

44. It will be essential that the entry, exit and placement into storage of containers and cargo be tracked by a real-time computer system, such that it will be possible to locate any container or cargo consignment from the time of its departure from a seaport, or from a shipper's premises, until its arrival in the dry port and placement into storage.

45. In addition, a computerized yard control system should be used to determine with precision where a container is to be placed in the stack.

#### **Process**

46. Dry port planners or operators of the existing dry ports should consider deployment of IT systems identifying location of containers or other consignments to be shipped to a dry port from a seaport in real-time mode, as well as computerized container yard management systems.

### **VIII. Coding of dry ports of international significance**

#### **Description of the issue**

47. The United Nations Code for Trade and Transport Locations, or UN/LOCODE, is a system of codes developed for uniquely identifying locations, such as airports, seaports, and inland freight terminals, which handle international trade. The codes are of a five-character format, the first 2 alpha characters indicating the country in which the place is located, followed by 3 alpha characters indicating the specific location.

48. However, so far very few dry ports have applied for a LOCODE, which prevents them from being easily identified and recognized as points of origin or destination in the course of a transport operation and limits the possibility of establishing a network of dry ports of international importance.

#### **Target**

49. Through the adoption of international port codes, electronic links can be established between dry ports in the regional network. This will be of considerable benefit in facilitating trade and the electronic exchange of documents between dry ports located in different countries. Indeed, this is already happening for the exchange of cargo between two dry ports located in at least two countries of the region.

50. UN/LOCODES are managed, maintained and updated by the ECE Secretariat. The codes are maintained as a relational data base, and may be updated on request from users.

#### **Process**

51. It is strongly recommended that all dry ports which have not yet applied for a LOCODE, should do so. There is a procedure for interested parties to register new locations on-line, details of which are available on the ECE website. The ESCAP Transport Division is available to assist countries in this process.

### **IX. Incorporation of dry ports into international transport documents**

#### **Description of the issue**

52. In practice, transport documents applied for cross-border transport operations are already used for the consignment of cargo between dry ports located in different countries of the region. The current format of these documents is adequate for international cargo exchanges between dry ports. In particular, there are practical examples of application of FIATA Multimodal Bill of Lading for operations between two dry ports of the region. Similarly, the existing international railway consignment notes (SMGS, CIM-SMGS, etc.) and international road transport consignment note (CMR) can also be applied for dry port-to-dry port operations.

53. However, this type of transport operations is generally uncommon in the region.

54. One of that reasons for that is lack of recognition of dry ports by government authorities as points of origin or destination where customs formalities and other control procedures associated with cross-border transport operations can be fully discharged with due efficiency.

#### **Target**

55. All dry ports covered in the Intergovernmental Agreement on Dry Ports should widely serve as points of origin or destination for cross-border transport operations and be identified accordingly in the related transport documents.

#### **Process**

56. Cross-border transport operations between dry ports located in different countries should be further promoted among shippers, freight forwarders and

transport operators. It does not need changes in the transport documents utilized for cross-border transport operations.

57. However, introduction of dry-port-to-dry port transport operations in some countries may (but not necessarily) require adjustment of domestic regulations related to customs and other control procedures and formalities.

58. Recognition of dry ports by government control authorities as points where customs and other control formalities related to cross-border transport operations could be efficiently carried out may be another important precondition for introduction of dry ports as points of origin and destination for cross-border transport operations.

## **X. Proposed arrangements for customs clearance at dry ports**

### **Description of the issue**

59. Dry ports must be able to offer the full range of functions (customs, quarantine and health) for the border clearance of international cargo. As already observed, effective interoperability of dry ports within a regional network will require that they have the facilities and full authority to clear international cargo and that intermediate border checks be kept to the minimum necessary for border security.

60. Preferably, border inspection staff should be based permanently at dry ports, or alternatively that staff will be available on demand to undertake inspections there. Customs inspection staff are permanently based at many existing dry ports in the region.

### **Target**

61. In order to make fully effective the border clearance functions of dry ports, it will be necessary to integrate the different border control processes (customs, quarantine and health) and documentation under a single authority within each dry port. This is the “single window” concept, the adoption of which will be essential to eliminate duplication of procedures and staff, as well as to reduce the volume of document processing, in dry ports.

62. The border clearance functions of dry ports will also be enhanced if on-site inspection staff could be provided with the IT systems necessary to carry out risk assessment of import consignments. In some countries of the region, customs authorities have adopted a system of cargo pre-clearance whereby import consignments are risk-assessed 72 hours before vessel arrival in port. Such assessments are carried out with the assistance of on-line information related to customer (or consignee) profiles to determine whether clearance of consignments poses an acceptable level of risk. There are strong benefits to be realized from such assessments being carried out by border control staff based at dry ports, particularly if the latter will in future have ultimate authority for the clearance of cargo consigned to their facility.

### **Process**

63. Where necessary, the relevant regulations should be amended to eliminate comprehensive checking of cargo at maritime or land borders and to allow full clearance procedures to be carried out at destination dry ports.

## **XI. Policy measures, legislation and solutions for planning dry port development**

### **Description of the issue**

64. A generally fragmented authority for the coordination and planning of dry port development in the region has limited the effectiveness and delivery of government policies designed to assist this development. Co-ordination is particularly weak in countries which rely extensively (and sometimes exclusively) on private sector investment in dry port development.

### **Target**

65. The activities of a proper coordination agency can be usefully directed at developing and applying the following policy initiatives to assist the development and establishment of dry ports:

(a) Taxation and other financial measures, including tax holidays or waivers, concessional land rent or public utility rates, etc;

(b) Priority development of transport infrastructure connecting to dry ports, including where relevant, provision of investment incentives for private developers of dry ports;

(c) Incorporation of dry ports in export processing or other free trade zones (FTZ) (taking care to ensure that such facilities are capable of generating cargo handling volume for dry ports);

(d) Regulatory measures to encourage sustainable transport connections to dry ports, including the regulation of truck weights and dimensions to discourage the operation of environmentally damaging vehicles.

### **Process**

66. Policy measure (a) does not seem to have been applied widely within the region and where it has, seems not to have been very effective. There is evidence that measure (b) has been applied successfully in at least one country of the region. Measure (c) can be successful in generating sufficient volume to ensure the financial viability of dry ports, but only where the FTZ has a strong manufacturing base. An FTZ located at or near an inland border is unlikely to have this characteristic.

67. In the case of policy measure (d), there may be a need to reverse the direction of policies previously applied to relax regulations related to truck weights and dimensions.

68. Coordination of planning activities for dry port development should be assigned to an inter-agency committee, under the authority of a single transport ministry and with representation from all agencies with a regulatory interest and involvement in dry port development and operation. There is evidence that such an approach is being applied successfully in a few countries of the region.

## **XII. Practical options for financing development and operation of dry ports**

### **Description of the issue**

69. Within the region, Public Private Partnership (PPP) is currently the most popular option for financing investment in new dry port development, but there are relatively few existing dry port projects which have been financed

in this way. PPP concepts have recently been applied widely throughout the region to transport infrastructure projects, such as highways and seaports – applications where the level (and stability) of demand is guaranteed. There is a high level of risk associated with dry port investments, due to the uncertain level and stability of demand, particularly in some inland areas, and in some cases the uncertain level of competition.

### **Target**

70. There are three main options for development financing and operation of dry ports:

- (a) Option 1: Financing by public sector and outsourcing of operation through a management contract with the private sector;
- (b) Option 2: Private sector financing and operation;
- (c) Option 3: Public Private Partnership (PPP) variants.

71. There are varying levels of investment risk associated with these options. Under Option 1 all of the risk is assumed by the public sector, which may make it unattractive relative to the constraints and limitations of the public sector budget. Option 2 assigns all of the risk to the private sector, which may make the project unattractive to some potential investors. Variants of Option 3 assume different levels of participation by public and private sector parties, ranging from maximum public sector investment in land and infrastructure to minimal public sector and maximum private sector investment in infrastructure and equipment.

### **Process**

72. PPP is seen to offer an opportunity for governments to reduce the burden on national budgets, by attracting private investments for expensive infrastructure projects and at the same time to introduce private sector expertise to the management and operation of these projects.

73. Governments can make PPP more appealing to potential private sector investors by shouldering a larger part of the capital cost and associated risk. There are several examples in the region when a PPP scheme was successful because the public sector covered all of the project's infrastructure costs, in addition to providing the land for the project.

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