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**Issues and challenges in transport related to promoting regional connectivity: transport policy, infrastructure, facilitation and logistics**

## Issues and challenges in transport related to promoting regional connectivity: transport policy, infrastructure, facilitation and logistics

**Note by the secretariat**

*Summary*

Transport connectivity across borders is a pivotal element of regional cooperation and integration.

While significant progress has been achieved in developing physical transport connectivity in the region, many issues and challenges have yet to be addressed with regard to enhancing capacity, improving efficiency and supporting regional integration.

The present document identifies the major issues and challenges in transport for promoting regional connectivity, and discusses ways in which these challenges can be addressed. In addition, the document outlines various actions and initiatives that could be taken at the national and regional levels to promote regional connectivity.

The Committee may wish to provide the secretariat with guidance on a future course of action to address the issues and challenges related to promoting regional connectivity.

## Contents

# I. Introduction

1. Transport networks consist of links and nodes, as do other networks. Thus, any capacity constrained or missing links or nodes affect one of the most important structural properties of a network, namely its connectivity. This, in turn, affects the overall flows and efficiency of the network.

2. The imperative of increased regional transport connectivity is widely recognized by member countries, regional and subregional organizations and institutions as a means of supporting (a) regional integration, (b) intra- and interregional trade, (c) access for landlocked and island developing countries (d) regional and international production networks (e) the opening up of markets and increased competition, and (f) increased domestic access to economic and social opportunities.

3. However, for various historical, political and topographical reasons, the land transport networks of many Asian countries are orientated towards coastal areas. As a result, inter-country land transport linkages have not been well developed. In other cases, the emergence of new countries has created physical and non-physical barriers to traffic flows at borders that formerly did not exist.

4. Partially because of underdeveloped land transport infrastructure, much of the economic development in countries of the Asia-Pacific region has been in coastal areas. As a result, there have been widening income and wealth gaps between these areas and their deeper hinterlands. This, in turn, has led to calls for greater spatial equity in incomes and wealth.

5. While the access provided by transport is of general importance to all countries, it is of particular importance to archipelagic and island developing countries for their domestic commerce and international trade. Due however to their small size, thin populations, limited production base and vast inter-island distances,[1] providing and maintaining adequate shipping services for and within these countries face a number of constraints and challenges which are hampering economic and social development.

6. The vision of an international integrated intermodal transport and logistics system articulated by the ministers in the Busan Declaration on Transport Development in Asia and the Pacific[2] and reiterated in the Bangkok Declaration on Transport Development in Asia, which was adopted by the Forum of Asian Ministers of Transport (Bangkok, 14-18 December 2009),[3] aims to realize the potential benefits of improved transport connectivity through the development and integration of the Asian Highway and Trans-Asian Railway networks with intermodal dry ports. In addition to integrating the networks, it is envisaged that such dry ports

[1] "Many domestic inter-island voyages would represent a major international voyage in other parts of the world and some inter-island voyages in the Pacific region are longer and potentially more hazardous than many intercontinental voyages." Ian Williams and Heike Hoppe, "Safety regulations for non-conventional vessels: the IMO approach", < www.imo.org/includes/blastData.asp/doc_id=1149/Safety.pdf>, accessed on 27 July 2010.

[2] Subsequently endorsed by the Commission in its resolution 63/9 of 23 May 2007 on the implementation of the Busan Declaration on Transport Development in Asia and the Pacific and the Regional Action Programme for Transport Development in Asia and the Pacific, phase I (2007-2011).

[3] See Commission resolution 66/4 of 19 May 2010 on the implementation of the Bangkok Declaration on Transport Development in Asia.

would provide value added services as well as act as growth centres, thereby supporting economic growth and development in deeper hinterlands and landlocked countries.

7. The following sections cover, firstly, the issues and challenges being faced in the development of regional connectivity, secondly, the means of addressing the challenges, and thirdly, the actions which will assist in promoting regional connectivity.

# II. Issues and challenges of regional transport connectivity

## A. Transport infrastructure development

8. The implementation of the Asian Land Transport Infrastructure Development (ALTID) project has led to the identification of the Asian Highway and Trans-Asian Railway networks comprising 142,000 km of highways and 114,200 km of railway lines. The two networks have now been formalized in two related intergovernmental agreements. The Intergovernmental Agreement on the Asian Highway Network entered into force on 4 July 2005. There are now 28 Parties to the Agreement and one signatory yet to become a Party. Meanwhile, the Intergovernmental Agreement on the Trans-Asian Railway Network, which entered into force on 11 June 2009, has been signed by 22 member States, of which 15 have already become Parties to the Agreement.

9. Both networks, as well as their feeder roads and rail lines, and the region's ports have substantially contributed to the development of the region's economies and enhanced their competitiveness by allowing access to existing markets, opening new markets and facilitating economic integration. Meanwhile, the two projects continue to assist member countries in identifying future initiatives and projects that are required to boost Asian transport connectivity, support intra-Asian trade, sustain economic growth and ameliorate the welfare of the citizens of the region.

10. In accordance with the terms of the intergovernmental agreements, the secretariat has established separate working groups for the Asian Highway and Trans-Asian Railway to assist member countries in the implementation of the agreements. The Working Group on the Asian Highway has met three times and the Working Group on the Trans-Asian Railway has met once.

11. The working groups have recognized that the Asian Highway and Trans-Asian Railway are not static or time-bound but are evolutionary by nature and consequently require frequent relevant policy guidance.

12. The working groups have recognized the importance of yearly updated information on the status of infrastructure development as well as the levels of traffic and transport services along the Asian Highway and Trans-Asian Railway networks to better target future development policies.

13. Significant progress has been made in developing and upgrading the Asian Highway network in conformity with the Agreement's classification and design standards. However, there are still about 11,500 kilometres (8 per cent of the network) of roads that need to be upgraded to Class III or higher standards. Similarly, progress has been made in developing and upgrading the Trans-Asian Railway through, among other projects, double-tracking, gauge conversion and the introduction of modern signalling.

However, there remains about 8,000 km of missing links (7 per cent of the network).

14. With the formalization of the Asian Highway and Trans-Asian Railway networks as the two major building blocks of the international integrated intermodal transport and logistics system for Asia and the Pacific, activities are now aimed at integrating the networks, through the development of dry ports. These dry ports would: support the development of intermodal corridors; create new opportunities for growth at inland locations, ensuring wider spatial distribution of growth benefits; secure a more inclusive development approach; and support a modal shift to rail transport and inland waterways to reduce the environmental impact of transport.

15. Given the extent of the work to be accomplished in developing Asia's transport infrastructure, focusing on the promotion of selected international corridors is a practical means of developing the transport network. These corridors would provide a means for countries to set in place efficient intermodal transport and develop their logistics industry, thereby giving the ESCAP region an opportunity to maintain its economic growth position, expand benefits for the labour markets and continue to improve the standards of living of its people. Dry ports located at places with high potential for the consolidation of freight flows will be essential to the operational efficiency of such corridors.

16. As requested in the Bangkok Declaration on Transport Development in Asia (see E/ESCAP/66/11, chap. IV), the secretariat is working on the development of an intergovernmental agreement on dry ports (see E/ESCAP/CTR(2)/3). A regional agreement on dry ports defining common functions and guiding principles would assist countries in developing overall strategies as well as policy and regulatory measures for the development of dry ports.

## B. Transport facilitation

17. With the improvement of land transport infrastructure in the past two decades, non-physical barriers have become more apparent as major impediments to the connectivity of transport services between and through countries of the region. Member countries have recognized that physical connectivity alone cannot guarantee a seamless movement of goods and people across countries, that inefficient and lengthy cross-border procedures continue to be a serious challenge.

18. For example, the International Road Transport Union (IRU), with the involvement of carriers from nine countries, launched regular test runs of freight carriage by road from the Central Asian borders of China to Western and Central Europe for nine consecutive months in 2008 and 2009. The test runs found that the transport infrastructure on the routes was adequate to commence road transport immediately, but the most challenging task was the elimination of administrative barriers to full-scale road transport operations, as 40 per cent of overall travel time was devoted merely to crossing national borders.

19. While member countries are paying greater attention to transport facilitation, there are still many non-physical barriers to the smooth and efficient movement of goods and people in international road and rail transport. Common non-physical barriers along transport routes include:

- Inconsistent and complicated border-crossing formalities and procedures;
- Large numbers of documents;
- Repeated inspections by different authorities;
- Long waiting times for inspection and clearance of documents;
- Different technical standards (such as vehicle dimensions and axle loads);
- Rules and regulations that are not transparent;
- Restrictive visa requirements for crews;
- High and numerous charges for entry or transit;
- Non-conformity with conventions to which the countries are Parties;
- Incompatible working hours at borders;
- Different locations of various control stations;
- Lack of coordination among control authorities;
- Lack of coordination among various stakeholders.

20. In many countries of the region, international transport by road is allowed within 30 to 100 km of borders or along a limited number of routes, with only a few places designated as loading and unloading points. In addition, such transport is restricted by the number of transport permits issued per year, and the validity of the permits is limited to a single round trip within a specified time period. These restrictions cause high costs and delays in international road transport.

21. Similarly, in railways, simplifying and harmonizing documents and procedures and the expansion of inter-country services remain major outstanding challenges. With the Trans-Asian Railway network in place, it is timely for Governments of the region to consider ways and means to develop or improve cross-border facilitation measures.

22. Some countries commenced the process of formulating subregional agreements on facilitation of cross-border and/or transit transport by land in the mid-1990s with assistance from relevant international organizations/institutions.[4] These agreements have created opportunities for subregional connectivity and simplification and harmonization of formalities and procedures. However, most subregional agreements are not being fully implemented; in some cases, the negotiation of the operational and technical annexes or protocols has not been completed.

[4] Examples include: the ASEAN Framework Agreement on the Facilitation of Goods in Transit, signed in 1998; the ECO Transit Transport Framework Agreement (1998); the Greater Mekong Subregion Agreement for Facilitation of Cross-border Transport of Goods and People (1999); the ASEAN Framework Agreement on Multimodal Transport (2005); the ASEAN Agreement on Inter-State Transport (2009); and the Agreement between the Governments of the Shanghai Cooperation Organization Member States on Facilitation of International Road Transport, which was initiated in 2004.

23. There are many international conventions that provide for simplified and harmonized systems for international land transport and intermodal transport across regions and subregions. In its resolution 48/11 of 23 April 1992 on road and rail transport modes in relation to facilitation measures, the Commission recommended seven such conventions.[5] However, as some contiguous countries have not acceded to all of the conventions, there is a territorial discontinuity in their application, which significantly affects their functioning in the region.

## C. Transport logistics

24. In many member countries, logistics costs form a large proportion of total output. In Indonesia, for example, logistics costs comprise 14 per cent of total production costs, compared with 5 per cent in Japan.[6] In China, logistics costs accounted for 18.1 per cent of total gross domestic product (GDP) in 2008.[7] In Thailand, "logistics costs in 2007 ran as high as 1.6 trillion baht, equivalent to 18.9 per cent of GDP".[8] It has been estimated that, in Cambodia and the Lao People's Democratic Republic, a 20-per cent reduction in logistics costs would increase the trade to GDP ratio by more than 10 per cent.[9] Consequently, efficient logistics can boost trade substantially.

25. Many countries in the region have started to take initiatives to put in place policies to guide and support the development of efficient logistics. However, due to the cross-sectoral nature of the logistics issues that need to be addressed in such areas as trade, transport and logistics service, infrastructure, and rules and regulations, the task often proves complex and requires the involvement of different stakeholders from both the public and private sectors. In addition, the responsibility for making policy decisions relating to the logistics industry is scattered over sundry ministries, departments and agencies, and none is in charge of overall coordination among them. Consequently, for many countries in the region, it remains a real challenge to bring all stakeholders together to develop and implement comprehensive logistics policies in a coordinated and consistent manner.

26. In many cases, statistical data for logistics services are not comparable because different countries often have different criteria for data collection and calculation. There is a need to have a useful statistical tool for measuring and monitoring logistics costs.

27. The operational capacities of logistics service providers have a direct impact on the logistics performance in a country. In many member countries, logistics service providers are still small in size and the industry

[5] The Convention on Road Traffic of 1968; the Convention on Road Signs and Signals of 1968; the Customs Conventions on the International Transport of Goods under Cover of TIR Carnets (TIR Convention) of 1975; the Customs Convention on the Temporary Importation of Commercial Road Vehicles of 1956; the Customs Convention on Containers of 1972; and the International Convention on the Harmonization of Frontier Controls of Goods of 1982; and the Convention on the Contract for the International Carriage of Goods by Road of 1956.

[6] JETRO (2007), *ASEAN Logistics Network Map*, (Tokyo, Japan External Trade Organization).

[7] http://www.un188.com/zixun/zixun60.htm.

[8] http://enews.mcot.net/view.php?id=8782.

[9] ESCAP, *Ten as One: Challenges and Opportunities for ASEAN Integration* (Bangkok: 2007).

is fragmented. In many cases, it is therefore necessary to enhance the professionalism and competitiveness of the logistics service providers through, among other things, establishment of minimum standards and codes of conduct for participation in the logistics industry as well as training of operators and officials.

## D. Finance and private sector participation

28. While considerable progress has been made in upgrading national transport infrastructure and developing cross-border linkages, the overall efficiency of movements is still hampered by a lack of connectivity. An ESCAP study in 2005 identified investment needs of US$ 18 billion to improve and upgrade 26,000 km of the Asian Highway.[10] Another ESCAP study[11] estimated that US$ 24 billion was required to construct the missing links in the Trans-Asian Railway network and that more resources needed to be allocated to increasing capacity along existing routes.

29. The working groups on the Asian Highway and Trans-Asian Railway have noted the importance of investment and financing for the development and maintenance of the networks and observed that a number of countries needed financial assistance to cover the cost of projects of international importance.

30. In addition to the upgrading of roads and railways, there is the challenge of maintaining the networks for smooth operation as well as preserving the valuable asset. With a drive towards construction of new transport infrastructure and expansion of capacity, maintenance has been often overlooked. However, significant savings can be made through the adoption of appropriate maintenance programmes. For example, it has been estimated that, for every additional dollar a developing country spends on road maintenance, road users save US$ 3.[12]

31. Many policy initiatives are being pursued to establish special funds for road maintenance supported by levies on fuel, tolls on roads and other sources. However, due to lack of resources, policies, technologies and the necessary skills required for managing and maintaining road networks, the result of these initiatives is not encouraging.

32. To meet these challenges, budget allocations from governments may need to be complemented by support from development partners and other innovative financing mechanisms, such as public-private partnerships (PPPs) and other forms of project funding arrangements.

33. Globally, the aggregate value of transport projects that have been completed with private participation between 1990 and 2008 was over $230 billion, almost half of which were in the ESCAP region. The most active countries in PPPs were China and India. Many other countries in the region are experiencing difficulties in attracting the private sector. In a recent

[10] ESCAP, *Priority Investment Needs for the Development of the Asian Highway Network*, 2005 (ST/ESCAP/2424).

[11] ESCAP, *Priority Investment Needs for the Development of the Trans-Asian Railway Network*, 2009 (ST/ESCAP/2557).

[12] Asian Development Bank, *Road Funds and Road Maintenance*, 2003, available from http://www.adb.org/Documents/Reports/Road_Funds_Maintenance/chap02.pdf.

survey of PPP units and programmes in the region, the secretariat found that the top 12 barriers to public-private partnerships were as follows:[13]

- Lack of ownership of and support for PPP programmes;
- Lack of awareness/poor understanding of PPPs by politicians/decision makers;
- Lack of capacity in the public and private sectors concerning project development and implementation;
- Absence/inadequate coverage of PPP legal regime/institutional framework;
- PPP process not clearly defined;
- Non-availability of model concession agreements;
- Lack of public sector project development funds;
- Difficulties in obtaining long-term finance;
- No provision by governments of incentives/subsidies/viability gap funding;
- Land acquisition difficult and time consuming;
- Lack of coordination between central and local governments;
- Contagion effects of domestic/regional economic and political environment.

34. In view of these and other barriers to PPPs, there are clearly a number of major challenges to address in order to create an environment that is conducive to PPPs.

## E. Sustainable transport development

35. The transport sector is the third largest consumer of energy and the largest consumer of petroleum products in the ESCAP region. Its energy consumption is growing faster than that of other sectors and other regions, driven by a rapid increase in motorization and strong transport demand from economic development. Meanwhile, the transport sector is the primary source or precursor of air pollution and the second largest contributor to carbon dioxide emissions.

36. Challenges facing policymakers in attempting to reduce energy consumption and vehicle emissions include: a large existing stock of vehicles with relatively high consumption and emissions that will require some time to work their way out of the fleet; the time lags in translating new technologies into mass production lines; the longevity of transport infrastructure assets locking countries into fixed energy-intensive development paths; the impact of increased transport costs on landlocked and island developing countries; and recognition that the increased volume of emissions from growing vehicle numbers offsets improvements in fuel

[13] ESCAP, Information Paper 2, prepared for the High-level Expert Group Meeting on Public-Private Partnerships for Infrastructure Development, Jakarta, 14 April 2010; available from: http://www.unescap.org/ttdw/ppp/ppp_jakarta2010/info_paper2.pdf.

efficiency and reduced vehicle emissions. Most of these challenges require a long-term commitment to substantial changes in transport policy.

37. The principal challenges that lie within the scope of work of the secretariat relate to intermodal freight transport systems and logistics. As is well known, the fuel efficiency of rail and water transport is better than that of road transport (see E/ESCAP/CTR/3). Consequently, the challenge is to develop integrated intermodal transport systems that, where appropriate, take advantage of the higher fuel efficiencies and lower emissions of rail and water transport. Improving logistics is a further means of reducing fuel consumption and the associated emissions.

## F. Road safety

38. Worldwide, road traffic accidents kill an estimated 1.3 million people and injure 50 million people per year. Global road fatalities are forecast to reach 1.9 million by 2020.[14] Out of this total, the number of road fatalities in Asia is estimated at 700,000 per year, more than half of the world's total, even though Asia accounted for only 43 per cent of the global vehicle population in 2007. It is estimated that, by 2020, two thirds of the world's road fatalities will occur in the ESCAP region. This means that the already unacceptably high number of road accidents, with its cost in human lives, will climb even higher if sufficient progress is not made in improving road safety.

39. In order to address the global crisis in road safety, the General Assembly adopted resolution 64/255 of 2 March 2010 on improving global road safety. Among other things, the resolution proclaimed the period 2011-2020 as the Decade of Action for Road Safety with the goal of stabilizing and then reducing the forecast level of road traffic fatalities around the world by increasing activities conducted at the national, regional and global levels.

40. Despite these global initiatives, road safety in many countries of the region is still not receiving high priority in national planning or policies, and sufficient measures are not being taken to enhance public awareness of the need to address the issue. Determination to fight road traffic fatalities and injuries should be clear and explicit at the regional and national levels. As many stakeholders are involved, it is important to plan and implement a coordinated response to improve road safety. Developing national road safety strategies and action plans with measurable road safety goals and targets will help countries move forward to focused actions in targeted areas. It is essential that road accident data are available for monitoring progress in achieving the goals and targets at the regional and national levels. Exchange of experiences and best practices will enhance the capacity of countries to plan and implement policy measures to improve road safety.

## G. Transport and the Millennium Development Goals

41. Many of the challenges in achieving the Millennium Development Goals involve access to economic and social opportunities. These challenges include access to product markets, employment, productivity-enhancing extension services, education and health services, and meeting gender-specific transport needs. By providing such access, transport

[14] Commission for Global Road Safety, *Make Roads Safe: A Decade of Action for Road Safety* (London: 2009).

addresses the poverty, educational, gender, child mortality and health-related Millennium Development Goals. Transport also addresses the targets of the partnership goal by incorporating the special needs of landlocked and small island developing countries and involving the private sector in the development process.

42. While transport, by its very nature, provides access and connectivity, there are many countries in the region with large spatial inequalities in income and wealth due to lack of all-weather roads to villages, infrequent or unreliable transport services to outlying islands, poor physical access to deeper hinterlands and weak rural-urban connectivity. The challenge is to improve access, thereby contributing to achievement of the Millennium Development Goals.

## H. Inter-island shipping

43. The overall objective of transport policy is to ensure an economically efficient, environmentally friendly, socially acceptable and spatially equitable transport system for the benefit of all the people and businesses located within the jurisdiction of the policymaker.

44. This is particularly critical for archipelagic and island countries, which face a number of specific constraints and challenges related to the demand for and supply of shipping services as well as the institutional and organizational framework within which the inter-island shipping industry operates.

45. On the demand side, inter-island shipping can be characterized by low and often irregular traffic volumes, long voyage distances, imbalanced cargo flows and low unit values of exports; on the supply side, there are considerations of ship economics (volume of cargo offered, required service frequency, route length, ship speed, physical constraints to ship size at ports and time in port) and indivisibilities in associated seaport infrastructure, superstructure and equipment. The consequences of these demand and supply considerations are high transport costs and low profits or chronic losses on shipping operations.

46. The inability of ship operators to make adequate profits leads, in turn, to a further deterioration in shipping services, entailing difficulties in securing finance, low levels of investment, inadequate maintenance, ageing fleets, an inability to attract seafarers and suitably qualified shipping company management staff, low productivity, poor service quality (frequency and reliability) or no services and compromised safety standards.

47. These difficulties are compounded by constraints in the ship repair industry, including: lack of adequate repair facilities, particularly in remote locations; difficulties in obtaining spare parts, especially for aged equipment and machinery; high costs of repairs and low standards of workmanship in ship repairs.

48. There are also various institutional and organizational constraints, including: maritime legislation not meeting international standards; the legislative environment not being conducive to enforcement of ship mortgages or maritime liens; limited enforcement of safety standards; inadequately trained seafarers; lack of transparency in the operation of government-owned fleets and in awarding and monitoring of route licences and contracts for subsidized shipping services.

49. In the area of freight forwarding and logistics, most Pacific developing countries face particular challenges. Small populations scattered over many islands, together with limited trade and industrial opportunities, make it difficult for logistics service providers to access essential skills and knowledge; and the absence of adequate inland transport infrastructure hampers attempts to improve the efficiency of critical supply chains.

### I. Connecting subregional transport networks

50. Many subregional and intergovernmental organizations in the ESCAP region have been active in formulating regional transport networks, promoting the development of transport infrastructure and in developing and implementing a legislative and regulatory environment that is conducive to the smooth and efficient flow of traffic between their member countries.

51. Some subregions have been more successful than others in developing these arrangements. Consequently, there is scope for the sharing of experiences in the substantive content of the arrangements and related implementation measures.

52. In recognition of the benefits of outward looking policies, many subregions are now looking beyond their own frontiers towards establishing wider trading relationships with other subregions and, in some cases, transiting other subregions. This has revealed technical, regulatory and operational differences between the regimes in each subregion which can act as physical and non-physical barriers to smooth and efficient transport. These considerations are of particular importance in corridor approaches to transport development where the corridor crosses subregional boundaries. Consequently, there is also scope to increase intersubregional connectivity by addressing these issues.

## III. Addressing the issues and challenges of regional transport connectivity

### A. Transport infrastructure development

53. With the entry into force of the intergovernmental agreements on the Asian Highway and Trans-Asian Railway, there is an ongoing need for the secretariat to coordinate the implementation of the provisions of the agreements, including the convening of their respective working groups.

54. Upgrading and improvement of the Asian Highway and Trans-Asian Railway routes contribute towards improving regional connectivity as well as the efficiency of road and rail transport. Prefeasibility studies of priority Asian Highway and Trans-Asian Railway routes will help countries to prepare sound project proposals and seek mobilization of resources for their upgrading. Training workshops and seminars in the area of investment appraisals would further enhance the capacity of transport officials to prepare investment studies and proposals.

55. In the broader context, there is a need to consider the most effective means of moving towards an international integrated intermodal transport and logistics system. One approach to this is to focus efforts on a set of strategic international corridors integrating the Asian Highway, Trans-Asian Railway and other modes of transport through dry ports, identify the issues and challenges on these corridors, then make concerted efforts to fully

operationalize the corridors by removing the various physical and non-physical barriers.

56. A comprehensive region-wide strategy needs to be developed to assist countries in developing dry ports at key locations where they can create new opportunities for growth at inland locations.

57. Formalizing the development of dry ports through an intergovernmental agreement would (a) promote international recognition of dry ports, (b) facilitate infrastructure investment and (c) define operational services for a more harmonized approach to the development and operation of dry ports in the region.[15]

58. In view of the evolutionary nature of the Asian Highway, Trans-Asian Railway and dry ports, there is a need to develop or update and maintain their databases which will provide a reference point for their current status at any given time.

## B. Transport facilitation

59. In view of the numerous institutional and organizational difficulties in international land transport, integrated measures are required to address facilitation issues in regional connectivity, including policy support, formulation and implementation of effective subregional and bilateral agreements, accession to and implementation of international facilitation conventions, application of new technologies, establishment/strengthening of coordination mechanisms and capacity-building.

60. When formulating or renewing bilateral or multilateral agreement on road transport, it is desirable for member countries to provide more transport routes with greater geographical extent and to establish more efficient transport permit systems.

61. For countries with extensive international railway operations, harmonization of documents and simplification of formalities and procedures need to be placed on the agenda of transport and other control authorities. For other countries, there is a need to jointly discuss the ways to open or expand their international railway services. In such discussions, it is advantageous to also reach agreement on harmonized documents and simplified formalities to avoid more complicated and difficult processes that may need to be changed after operations commence.

62. Subregional agreements relating to transport facilitation play a key role in subregional connectivity. The subregional agreements concluded by member countries need to be effectively implemented to provide efficient and smooth transport connectivity between and through countries. Some agreements or technical annexes/protocols under negotiation need to be expeditiously concluded.

63. International conventions provide frameworks for harmonization and simplification of formalities and procedures. If they have not done so already, member countries may consider acceding to relevant international conventions, in particular the seven core conventions recommended in Commission resolution 48/11. As the resolution was adopted in 1992, it

[15] For details on the formulation of an intergovernmental agreement on dry ports and a proposed structure for such an agreement, see E/ESCAP/CTR(2)/3.

needs to be updated to include the subsequent development of international conventions and the latest demand for international land transport (see E/ESCAP/CTR(2)/1).

64. Coordination of the relevant government ministries/agencies and the private sector is required in order to address transport facilitation challenges effectively. Such collaboration is crucial for the formulation and implementation of various facilitation measures. Some countries in the ESCAP region have in place coordination mechanisms that could fulfil all of the tasks required. They should be strengthened further to ensure that they are fully effective.

65. The ESCAP time/cost-distance methodology is an effective tool for helping find time and cost in the entire process of cross-border and transit transport. With regular applications of the methodology to particular transport routes or corridors, bottlenecks can be isolated and identified, and the impact of facilitation measures can be monitored and evaluated.

66. New technologies, such as ICT and electronic customs seals, have provided tremendous opportunities for the improvement of inspections and clearances for cross-border formalities and procedures. Concrete action plans are required to promote the use of new technologies.

## C. Transport logistics

67. Considering that many member countries are embarking on the complex task of developing logistics policies, guidelines for developing such policies would provide a useful tool to assist them in their endeavours.

68. As logistics is an issue relevant to many stakeholders including government, industry and the users of the logistics service, the solution to improving logistics in member countries should accordingly involve all stakeholders. Coping with the various challenges in logistics will require effective coordination and shared visions among stakeholders.

69. In parallel with the development of logistics policies, a tool which measures and monitors logistics costs needs to be developed.

70. In order to enhance professionalism and increase the competitiveness of logistics service providers, a minimum standard and code of conduct for the industry need to be established.

71. Networking is an important approach for the logistics industry to provide efficient and cost-effective services. Annual regional meetings on freight forwarding, multimodal transport and logistics are desirable for operators to enhance networking and cooperation, promote communication, share experiences and discuss common challenges.

72. Sustainable training programmes need to be established and conducted in developing countries to enhance the capacity of freight forwarders, multimodal transport operators and logistics services providers.

## D. Finance and private sector participation

73. Investment forums, with the participation of donors, international and subregional organizations and the private sector, provide the opportunity to showcase investment needs in member countries and discuss potential investment projects for the development and upgrading of the

Asian Highway, Trans-Asian Railway and dry ports, thereby assisting countries in their endeavours to mobilize financial resources.

74. In addressing the challenge of road maintenance, there is a need to revive road maintenance initiatives for enhanced maintenance planning and rational allocation of resources. Member countries could consider policy reforms to introduce road user charges, such as tolls and levies on fuel, and incorporate and prioritize road maintenance, as well as establishing road maintenance funds, in national planning.

75. In order to overcome the barriers to PPP effectively, the following are needed: (a) interventions involving high-level policy advocacy aimed at increasing the awareness and understanding of policy- and decision makers; (b) networking of PPP units and programmes aimed at sharing information and experiences; (c) the development of comprehensive PPP training programmes and resource and training materials for policymakers and practitioners at different levels; and (d) engagement of academic and national training institutions (particularly those involved with the training of civil servants) in offering regular short and long training programmes on different aspects of PPPs. At the national level, there is also a need to review the existing institutional and regulatory arrangements, assess PPP-readiness, and standardize the project development and implementation processes.

## E. Sustainable transport development

76. In view of the immense challenges posed by the longevity of transport assets and the long lead times required for new technologies to be developed and implemented, there is a need to investigate scenarios for sustainable transport development and to formulate long-term transport plans, in order to reduce the possibilities of countries being “locked in” to fixed energy-intensive development paths.

77. In the interim, there is a need to promote the modal shift of long-distance freight transport and to improve transport logistics, which will contribute to more energy-efficient and environmentally friendly transport.

## F. Road safety

78. Development of regional road safety goals, targets and indicators will support the implementation and monitoring of the Decade of Action for Road Safety at the regional level. Countries need to show a high level of commitment to the implementation of the Decade of Action for Road Safety and should continue their efforts to develop and implement national road safety strategies and action plans consisting of measurable goals and targets with focused actions in priority areas. Targeted action would be required to create public awareness of road safety, to develop safe road infrastructure and improve hazardous locations, and to safeguard the most vulnerable road users, such as pedestrians, cyclists and motorcycle riders. In order to facilitate the periodic monitoring of progress in improving road safety, member countries should initiate the collection of quality road safety data.

79. There is a need to further enhance coordination, strengthen existing relations and build new partnerships among various stakeholders working in the area of road safety at the global, regional and national levels to direct more resources towards improving road safety, in particular for the activities related to the Decade of Action for Road Safety. Further,

exchange of experiences and best practices at the regional and national levels would enhance the capacities of countries in planning and implementing activities to improve road safety. In this context, a web-based regional network of stakeholders could facilitate the exchange of information and help monitor the achievements. Compiling a guideline outlining best practices would also be useful.

## G. Transport and the Millennium Development Goals

80. Development of the Asian Highway and Trans-Asian Railway and their integration through dry ports supports economic growth, which is recognized as a major element of poverty alleviation, but more targeted interventions are required.

81. For effective targeting of transport interventions to support the achievement of the Millennium Development Goals, there is a need to develop and implement policies that: provide all-weather access to villages; provide regular and reliable shipping services to outlying islands; develop supply chain infrastructure in farm-to-market logistics; and strengthen rural-urban linkage. There is also a need to review existing institutional, regulatory and organizational policies that may be constraining the efficiency of supply chains, thereby reducing the earning potential of rural populations and increasing consumer prices.

## H. Inter-island shipping

82. In recent years, significant progress has been made in addressing many of the legislative, regulatory and training issues related to maritime transport, notably in the Pacific, with the technical advice and capacity-building services of the Regional Maritime Programme (RMP) of the Secretariat of the Pacific Community (SPC) in the areas of maritime law, training and security.

83. In developing economic policy related to maritime transport, both the Pacific Islands Forum and the Association of Southeast Asian Nations (ASEAN) have committed to the liberalization of the regulatory environment, taking into consideration the need for the safe, efficient, secure and reliable operation of maritime transport services.[16]

84. Due, however, to their particular challenges, archipelagic and island developing countries have used policies that included regulation of entry, State and regional ownership of shipping lines, reservation of domestic shipping to national fleets (cabotage), State-owned shipping lines, fiscal measures (subsidies and tax relief), shipbuilding subsidies, capital improvement subsidies for wharves and jetties, licensing of routes, franchising of routes, freight rate controls, and freight rate subsidies to shippers.

[16] Forum Principles on Regional Transport Services, adopted by the Heads of State and representatives at the thirty-fifth Pacific Islands Forum, Apia, Samoa, 6 August 2004, available from http://www.forumsec.org.fj/resources/uploads/attachments/documents/Forum%20Principles%20on%20Regional%20Transport%20Services%202004.pdf; and the Roadmap Towards an Integrated and Competitive Maritime Transport in ASEAN, adopted by the Thirteenth ASEAN Transport Ministers (ATM) Meeting, Singapore, 1 November 2007, available from http://www.asean.org/21152.pdf .

85. In view of the complexity of the issues involved in implementing these policies, there is a need for detailed studies of their implications.

86. Ship finance remains a challenge for inter-island shipping. Consequently, there is a need to revisit this issue with an in-depth analysis of the constraints and possible solutions.

87. The Pacific island developing countries also need assistance in building their human resources capacity in the field of freight forwarding and logistics, for both inter-island and international connectivity. International practices in freight forwarding and logistics can also be shared with industry and policymakers in these countries.

### I. Connecting subregional transport networks

88. The ESCAP secretariat has a number of memorandums of understanding with subregional organizations and programmes, including ASEAN, the Economic Cooperation Organization (ECO), the Forum Secretariat, the South Asian Association for Regional Cooperation (SAARC), the Shanghai Cooperation Organization (SCO), the Secretariat of the Pacific Community (SPC) and the Intergovernmental Commission of the Transport Corridor Europe-Caucasus-Asia (ICG-TRACECA) as well as ADB, which includes their Central Asia Regional Economic Cooperation (CAREC) and Greater Mekong Subregion (GMS) programmes. Such arrangements could form a firm basis for addressing the issues and challenges outlined in the previous section. There is, however, a need to review the memorandums of understanding and consider, in close consultation with the organizations concerned, the areas and modalities for closer cooperation and collaboration. Where appropriate, such consultations would be conducted in close cooperation with the subregional offices of ESCAP.

89. In view of the need and desire for increased inter-subregional movement of goods and vehicles, there are a number of initiatives that could be taken, including: sharing experiences between subregional organizations in developing subregional transport; assisting in the removal of physical barriers to inter-subregional transport; and promoting operational connectivity of transport across subregions.

## IV. Actions for promoting regional transport connectivity

### A. Introduction

90. The Regional Action Plan for Transport Development in Asia and the Pacific, 2007-2011, identified eight areas in which the secretariat should work in consultation with member countries, namely: (a) policy guidance at the ministerial level; (b) transport infrastructure development; (c) transport facilitation; (d) transport logistics; (e) finance and private sector participation; (f) sustainable transport development; (g) road safety; and (h) transport and the Millennium Development Goals. Progress in implementation of the Regional Action Programme is described in E/ESCAP/CTR(2)/1 and E/ESCAP/CTR(2)/INF/4.

91. The first two sections of the present document outlined the challenges facing member countries in developing an integrated international intermodal transport and logistics system and the broad directions in which countries may wish to proceed to address the challenges.

In the course of considering the challenges, two additional thematic areas were identified as new challenges, namely inter-island shipping and connecting subregional transport networks.

92. In this section, a number of actions at the regional and national levels for each of the theme areas are identified for the consideration of the Committee. The Committee may wish to provide guidance on the thematic areas and actions that could be included in the draft Regional Action Programme for Transport Development in Asia and the Pacific, phase II (2012-2016).

## B. Transport infrastructure development

93. Actions possible at the regional level include the following:

(a) Promoting accession to the intergovernmental agreements on the Asian Highway and Trans-Asian Railway Networks;

(b) Convening the working groups on the Asian Highway and the Trans-Asian Railway Networks;

(c) Initiating the operationalization of selected international intermodal transport corridors;

(d) Preparing prefeasibility studies on investment requirements for upgrading the substandard sections of the Asian Highway network and completing “missing links” in the Trans-Asian Railway network;

(e) Developing an intergovernmental agreement on dry ports;

(f) Identifying key strategic locations for the development of dry ports;

(g) Undertaking a study on the development of dry ports in Asia focusing on institutional, regulatory and operational issues;

(h) Maintaining Asian Highway and Trans-Asian Railway databases and initiating the establishment of a database on dry ports.

94. Actions possible at the national level include the following:

(a) Acceding to the intergovernmental agreements on the Asian Highway and Trans-Asian Railway Networks;

(b) Actively participating in the regional initiative to develop an intergovernmental agreement on dry ports;

(c) Periodically revising the national road and rail networks relevant to the Asian Highway and Trans-Asian Railway and proposing additions or deletions, as appropriate;

(d) Planning and implementing projects that support overall regional connectivity and initiatives, such as: (i) upgrading standards of the Asian Highway, completing “missing links” on the Trans-Asian Railway, and developing dry ports; (ii) installation of road signs along the Asian Highway; and (iii) prioritizing road maintenance;

(e) Periodically collecting infrastructure and traffic data on the Asian Highway, Trans-Asian Railway and dry ports and providing it to the secretariat.

## C. Transport facilitation

95. Actions possible at the regional level include the following:

(a) Assisting, on request, in formulating and implementing subregional and bilateral agreements relating to facilitation of international road and rail transport;

(b) Promoting accession to and implementation of international facilitation conventions;

(c) Assisting in establishing or strengthening national facilitation coordination mechanisms;

(d) Refining and applying the tool kit of the time/cost-distance methodology to cross-border and transit transport;

(e) Studying the impact of new technologies on border controls and international transport.

96. Actions possible at the national level include the following:

(a) Ratifying or approving the signed subregional agreements and implementing the agreements in their territories;

(b) Acceding, as appropriate, to international facilitation conventions, including those recommended by the Commission in its resolution 48/11;

(c) Accelerating the formulation of subregional agreements under negotiation;

(d) Incorporating into national legislation, as appropriate, the requirements of international treaties on transport facilitation to which the countries are Parties;

(e) Establishing or strengthening national facilitation coordination mechanisms;

(f) Adopting new technologies available for the control of cross-border and transit transport.

## D. Transport logistics

97. Actions possible at the regional level include the following:

(a) Preparing guidelines for the development of a national logistics policy;

(b) Undertaking a study on national coordination of stakeholders in logistics;

(c) Developing a statistical tool for measuring logistics costs which can be used by countries of the region;

(d) Preparing a guideline for the establishment of minimum standards and codes of conduct for logistics services providers in countries of the region;

(e) Working with member States and industry to identify the transport logistics needs of the region and working with government and industry towards a sustainable training programme across the region;

(f) Continuing to organize regional meetings for freight forwarders, multimodal transport operators and logistics service providers.

98. Actions possible at the national level include the following:

(a) Establishing inter-ministerial committees with the participation of the private sector to coordinate the development of logistics;

(b) Formulating integrated national logistics policy;

(c) Identifying and prioritizing transport logistics training needs and developing a sustainable training programme.

## E. Finance and private sector participation

99. Actions possible at the regional level include the following:

(a) Convening investment forums to promote financing for the Asian Highway, Trans-Asian Railway and dry ports;

(b) Reviving policy initiatives for road maintenance;

(c) Supporting regional cooperation in PPPs;

(d) Assisting with PPP capacity development programmes;

(e) Providing technical assistance in assessing PPP readiness and standardization of contracts and PPP processes;

(f) Providing support for networking of PPP units and programmes.

100. Actions possible at the national level include the following:

(a) Establishing road maintenance funds;

(b) Increasing the awareness of policymakers and the private sector;

(c) Building capacity in the public and private sectors to develop and implement PPP projects;

(d) Developing an administrative, legislative and regulatory environment conducive to PPPs;

(e) Standardizing contracts and PPP processes;

(f) Entering into a policy dialogue with the private sector.

## F. Sustainable transport development

101. Actions possible at the regional level include the following:

(a) Investigating scenarios for sustainable transport development;

(b) Promoting comprehensive long-term planning of transport development that is energy efficient and environmentally friendly;

(c) Promoting the integration of the Asian Highway and Trans-Asian Railway networks through dry ports;

(d) Promoting efficient transport logistics systems that support the utilization of the most energy-efficient and environmentally friendly transport systems.

102. Actions possible at the national level include the following:

(a) Developing long-term strategic plans for the development of the transport sector;

(b) Creating favourable conditions for modal shifts to greater use of rail and water transport, as appropriate;

(c) Investigating and implementing measures to increase the efficiency of transport logistics.

## G. Road safety

103. Actions possible at the regional level include the following:

(a) Facilitating the exchange of experiences and best practices;

(b) Advocating high-level commitment;

(c) Developing regional road safety goals, targets and indicators in line with the Decade of Action for Road Safety, 2011-2020;

(d) Encouraging coordinated efforts and partnerships among various stakeholder working in the area of road safety;

(e) Establishing a web-based road safety network.

104. Actions possible at the national level include the following:

(a) Developing and implementing a national road safety strategy and action plan with goals and targets in line with the Decade of Action for Road Safety;

(b) Planning and implementing a targeted awareness programme on road safety;

(c) Mobilizing resources for road safety activities;

(d) Collecting and maintaining road safety data.

## H. Transport and the Millennium Development Goals

105. Actions possible at the regional level include the following:

(a) Promoting the development of an international integrated intermodal transport and logistics system that supports economic growth and development;

(b) Assisting in the sharing of experiences in transport interventions that support achievement of the Millennium Development Goals.

106. Actions possible at the national level include the following:

(a) Providing physical access to rural communities and connecting them to national and regional trunk road systems;

(b) Developing rural-urban transport linkages;

(c) Developing supply chain infrastructure, including storage, warehousing and market places;

(d) Creating institutions as well as a legislative and regulatory environment that assist in developing supply chains.

## I. Inter-island shipping

107. Actions possible at the regional level include the following:

(a) Studying the effectiveness and economic consequences of various strategies for securing safe, reliable and efficient inter-island shipping services;

(b) Studying the constraints and possible solutions to ship financing problems;

(c) Providing training on freight forwarding, multimodal transport and logistics.

108. Actions possible at the national level include the following:

(a) Studying and implementing appropriate economic policies that efficiently address national inter-island shipping issues;

(b) Identifying and prioritizing the training needs for freight forwarding, multimodal transport and logistics.

## J. Connecting subregional transport networks

109. Actions possible at the regional level include the following:

(a) Reviewing the framework of collaboration between ESCAP and subregional organizations and programmes, and exploring ways and means of enhancing cooperation;

(b) Convening annual meetings of the ESCAP secretariat and the secretariats of subregional organizations as well as subregional programmes (back-to-back with the Committee sessions or ministerial meetings of ESCAP);

(c) Undertaking comparative studies of the provisions of subregional agreements and advocating convergence of agreements at regional meetings;

(d) Providing regional frameworks for supporting subregional connectivity of transport operations and harmonization of arrangements for cross-border and transit transport across subregions;

(e) Studying physical and non-physical barriers to inter-subregional transport movements and convening regional/inter-subregional meetings to develop action plans to address the relevant issues;

(f) Promoting inter-subregional demonstration runs of container block trains.

110. Actions possible at the national level include actively participating in the above activities as a member of the relevant subregional organization.