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## Economic and Social Commission for Asia and the Pacific Committee on Transport

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Item 3 (a) of the provisional agenda\*

### Major issues in transport

## Efficient and resilient transport and logistics networks and mobility for economic growth

### Note by the secretariat

#### *Summary*

The Asia-Pacific region accounts for a large proportion of the international transport of goods by land and sea, and its role in global freight movements will continue to grow. Efficient and resilient transport connectivity and logistics remain, therefore, a priority for the region.

The present document describes recent developments in Asia and the Pacific that influence the resilience and efficiency of international freight operations. It provides an update on the implementation of the Intergovernmental Agreements on the Asian Highway Network, the Trans-Asian Railway Network and Dry Ports. The present document also describes issues related to sustainable and resilient maritime connectivity and land transport connectivity between Europe and Asia.

The Committee on Transport may wish to provide further guidance on the ongoing and planned activities in the areas of efficient and resilient transport and logistics networks and mobility for economic growth. The Committee may also wish to welcome, note and otherwise comment on the tools and initiatives detailed in the present document.

## I. Introduction

1. The new Regional Action Programme for Sustainable Transport Development in Asia and the Pacific (2022–2026), designed and adopted during the pandemic period, contains three overarching objectives: progress towards efficient and resilient transport and logistics networks and mobility for economic growth, achieving environmentally sustainable transport systems and services, and safe and inclusive transport and mobility.

2. The present document describes recent developments in Asia and the Pacific that influence the resilience and efficiency of international freight operations. It provides an update on the implementation of the Intergovernmental Agreements on the Asian Highway Network, the

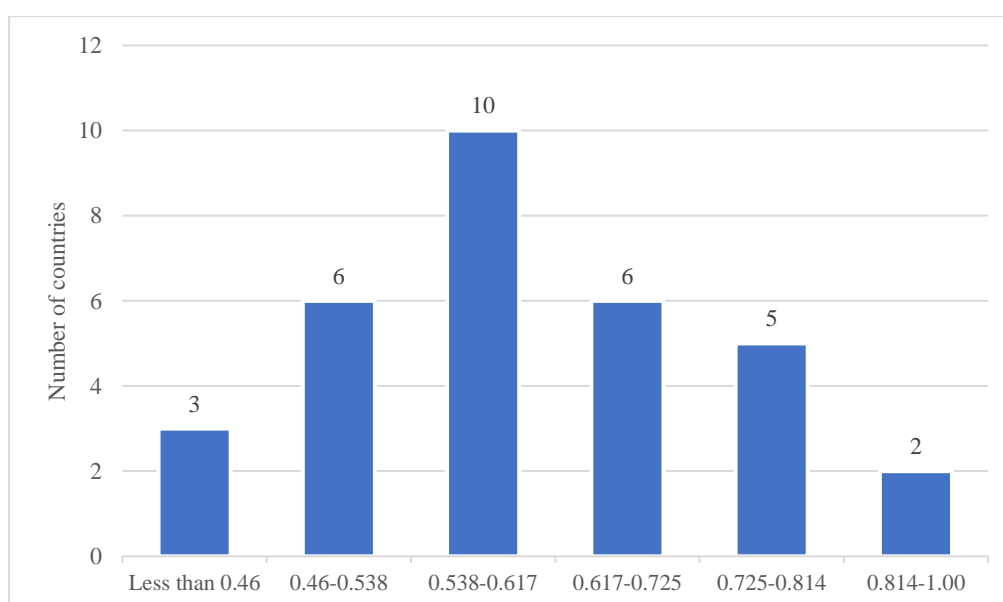
\* ESCAP/CTR/2022/L.1.

Trans-Asian Railway Network and Dry Ports and describes issues related to sustainable and resilient maritime connectivity and interregional connectivity.

## II. Transport and logistics networks in Asia and the Pacific: present and future scenarios

3. Transport connectivity levels remain highly heterogeneous across the Asia-Pacific region, as demonstrated by the figures below, which depict the distribution of a sample of the 32 Asia-Pacific developing countries according to their current transport connectivity levels.<sup>1</sup> As shown in figure I, while two countries in the sample show connectivity levels comparable to the highest performing countries globally, three countries in the sample show the lowest levels of transport connectivity in the world (less than 0.46) and the majority, 25 countries, show connectivity levels below the 0.725 threshold of the highest level of transport connectivity observed at the global level.

Figure I  
Connectivity level index of selected Asia-Pacific countries, 2021



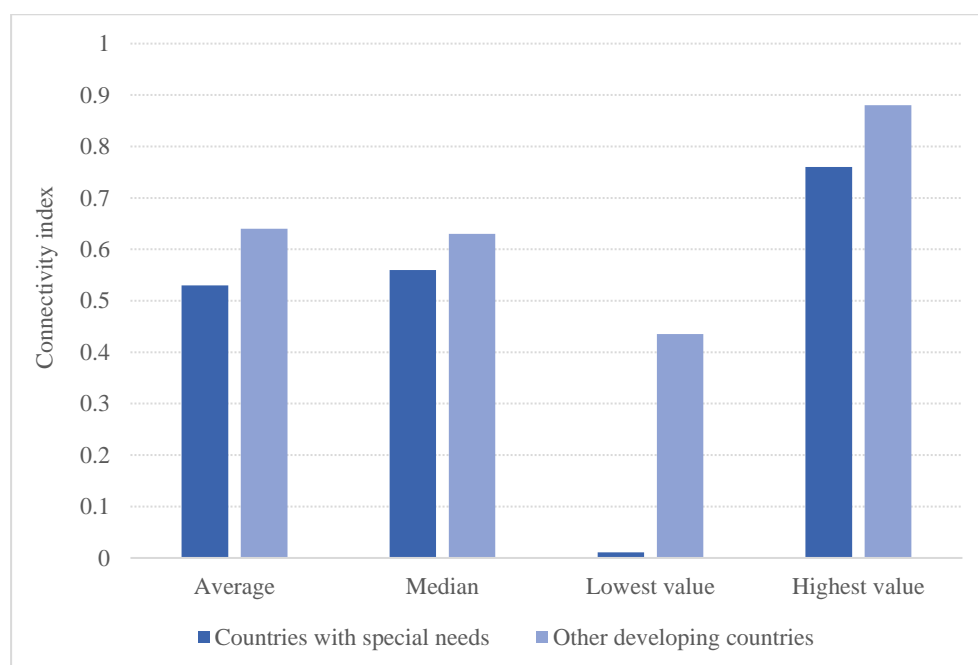
Source: Economic and Social Commission for Asia and the Pacific (ESCAP) calculations based on Organisation for Economic Co-operation and Development, *ITF Transport Outlook 2021* (Paris, 2021).

4. Moreover, countries with special needs and, more specifically, landlocked developing countries and small island developing States, show the lowest level of connectivity in the region and worldwide. The average, median, and minimum and maximum values of the connectivity indexes for the selected group of the countries with special needs are consistently and significantly

<sup>1</sup> Data on connectivity levels are based on the estimates by the International Transport Forum. The Forum uses a gravity-based model which measures how many opportunities (with the size of the gross domestic product as a proxy for trading opportunities) can be reached from each country relative to other countries. The explanatory components are calculated for road, rail and maritime transport modes and include distance, transport cost (including border crossing and handling cost), travel time (speed) and border crossing time. The highest connectivity level is 2021, indexed as 1, which was held by the Netherlands.

lower than the rest of the developing countries in the sample, illustrating the persisting connectivity gap in the region (figure II).

Figure II  
**Connectivity level index of selected countries with special needs and other developing countries in Asia and the Pacific, 2021**



Source: ESCAP calculations based on *ITF Transport Outlook 2021* (see figure I).

5. The economic and social challenges of the coronavirus disease (COVID-19) pandemic caused disruptions to international freight transport and led to increased delays in and costs of international transport operations. The best example of this is the unprecedented rise in shipping freight rates, which reached historic highs by the end of 2020 and early 2021.<sup>2</sup> The impact of the high freight charges is greater for small island developing States, which – if this trend continues – could see import prices increase by 24 per cent and consumer prices by 7.5 per cent, while least developed countries could see consumer price levels increase by 2.2 per cent.<sup>3</sup>

6. The ongoing crisis in Ukraine caused another major connectivity shock, as transit of goods through the Russian Federation became more difficult due to various uncertainties. The situation is particularly affecting the North and Central Asian countries, due to their landlocked status and strong economic and transport links to the Russian Federation. The overall situation may be detrimental to the growth of the Europe-Asia rail traffic, which had been one of the major positive developments along the Trans-Asian Railway network.

7. The current situation pushes shippers to look for alternative routes connecting Asia to Europe. Some are already exploring the Trans-Caspian International Transport Route, known as the Middle Corridor, traversing

<sup>2</sup> United Nations Conference on Trade and Development, “Container shipping in times of COVID-19: why freight rates have surged, and implications for policymakers”, Policy Brief, No. 84 (Geneva, 2021).

<sup>3</sup> *Review of Maritime Transport 2021* (United Nations publication, 2021).

Kazakhstan, Azerbaijan, Georgia and Türkiye,<sup>4</sup> but its existing capacity constraints require greater corridor cooperation and substantial investments. The situation could also incentivize the operationalization of the southern route of the Trans-Asian Railway network from Istanbul to Bangkok through Tehran, Islamabad, New Delhi, Dhaka and Yangon, Myanmar. Part of the corridor is already operational as part of the Economic Cooperation Organization rail corridor, but it is still limited by missing links (such as those between Bangladesh and Myanmar as well as between Myanmar and Thailand) and political hurdles. The Kazakhstan-Turkmenistan-Islamic Republic of Iran railway corridor is another route which can be used to take freight to Europe through the Islamic Republic of Iran. Potential redirection of trade flows to and from the Russian Federation to Asia can also result in growing interest for countries involved in the development of transport corridors in the region, such as the China-Mongolia-Russian Federation economic corridor and the International North-South Transport Corridor.

8. To help members and associate members of the Economic and Social Commission for Asia and the Pacific (ESCAP) to consider different options for their future freight transport policies, an analysis of the freight and passenger outlooks for selected subregions was carried by the secretariat in 2021 and 2022 in cooperation with the International Transport Forum.<sup>5</sup> The analysis used global transport modelling tools to estimate the future demand for passenger mobility, freight volumes and transport related emissions to the year 2050 for three subregions (South and South-West Asia, North and Central Asia, and South-East Asia). These subregions were selected due to the ongoing rapid changes in transport demand, services and infrastructure.

9. The analysis consisted of three policy scenarios with a focus on possible decarbonizing of freight operations: “recover”, “reshape” and “reshape-plus”. The recover scenario is the baseline scenario which assumes that by 2025 transport trends will return to levels seen prior to the pandemic and that only pre-existing, currently planned or committed policies are implemented, so there are no additional policies that build on the pandemic experience. Under the reshape scenario, transport trends are again assumed to have returned to their pre-pandemic levels by 2025, but the scenario also assumes policy measures that encourage changes in the behaviour of transport users, uptake of cleaner energy and vehicle technologies, digitalization to improve transport efficiency, and infrastructure investment to help to meet environmental and social development goals. The reshape-plus scenario is the most ambitious of the three scenarios. It assumes that governments seize decarbonization opportunities created by the pandemic and that any reductions in demand observed during the pandemic broadly continue, with a more ambitious policy package also being implemented.<sup>6</sup>

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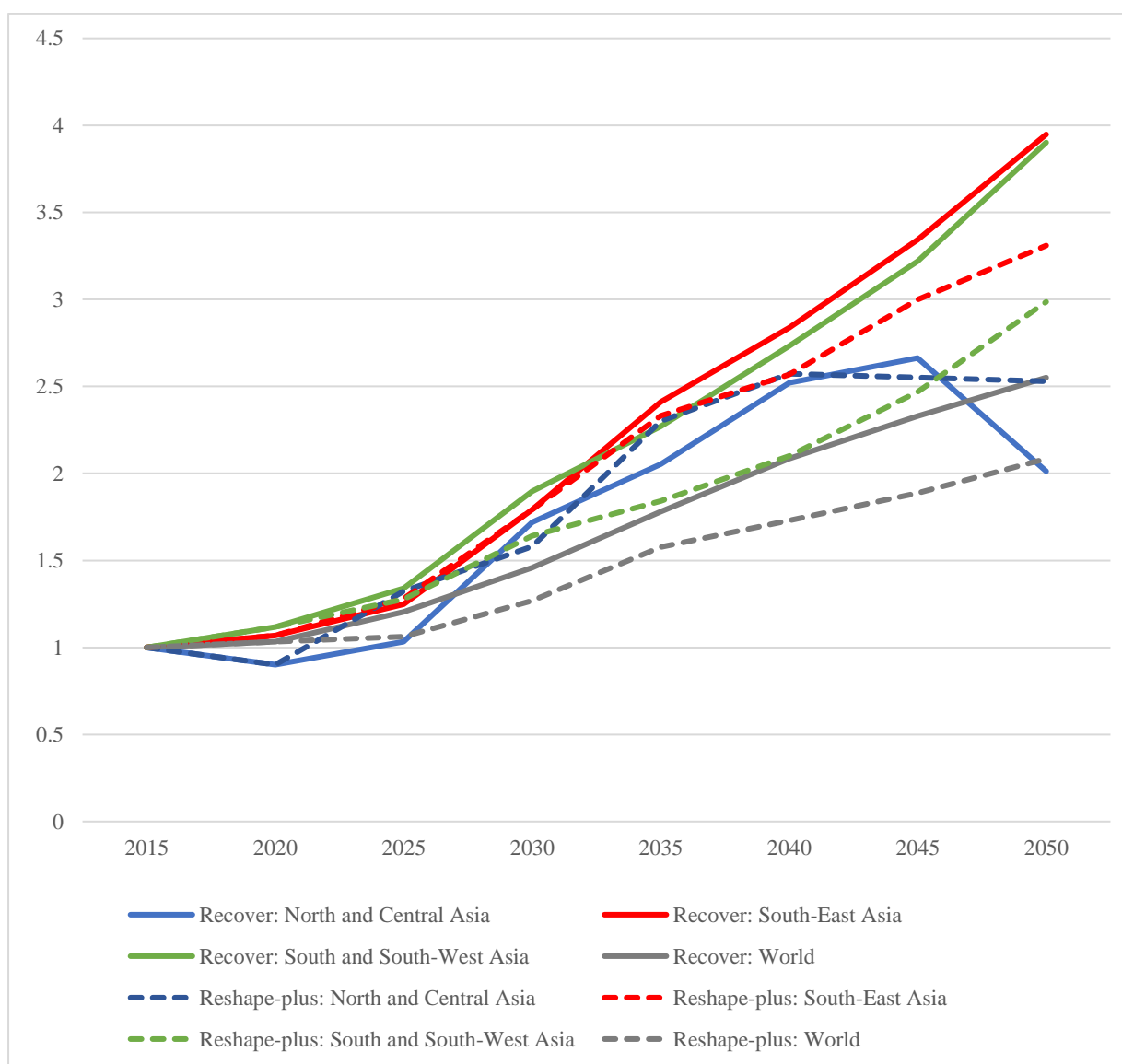
<sup>4</sup> Aibarshyn Akhmetkali, “Kazakhstan and Georgia discuss trade prospects and expansion of middle corridor as Georgian PM Irakli Garibashvili visits Kazakhstan”, *The Astana Times*, 27 July 2022.

<sup>5</sup> This work was carried out as part of the implementation of the United Nations Development Account projects “Transport and trade connectivity in the age of pandemics: United Nations solutions for contactless, seamless and collaborative transport and trade” and “Promoting a shift towards sustainable freight transport in the Asia-Pacific region”.

<sup>6</sup> Detailed description of all three scenarios is available in Organisation for Economic Co-operation and Development, *ITF Transport Outlook 2021* (Paris, 2021), pp.184–186.

10. The results suggest very substantial expected growth of freight volumes under all three scenarios. Urban and non-urban freight activity is expected to grow in the upcoming decades around the globe and in all three subregions (figure III). In South and South-West Asia, under the current trajectory, the total demand for non-urban freight transport is expected to increase by a factor of almost four between 2015 and 2050. Under the reshape and reshape-plus scenarios, the total increase comes to 3.1 times and 2.8 times, respectively. In North and Central Asia, by 2050, the freight activity under all three scenarios is projected to more than double 2015 values. In South-East Asia, under all three scenarios, ton-kilometres are projected to increase by nearly 80 per cent between 2015 and 2030 and to have nearly quadrupled (a factor of 3.9) the 2015 baseline value by 2050. Freight in the South-East Asia subregion is expected to be one of the fastest growing regions in the world. Even under the reshape-plus scenario, where freight tons are not expected to grow to such an extent, the rate of growth in South-East Asia relative to 2015 still outpaces other regions in the world.

Figure III  
**Relative growth in freight activity in Asia and the world**



Source: International Transport Forum (ITF), *ITF Southeast Asia Transport Outlook* (Paris, 2022).

11. The pandemic is not expected to reverse or stop the projected freight growth in Asia, and the strain on the existing infrastructure and transport and logistics services will continue to grow. Infrastructure and operational connectivity along the regional transport and logistics networks in Asia and the Pacific will remain key parameters of supply chain performance globally and regionally and, without proper prioritization, will effectively become a bottleneck in supply chain operations.

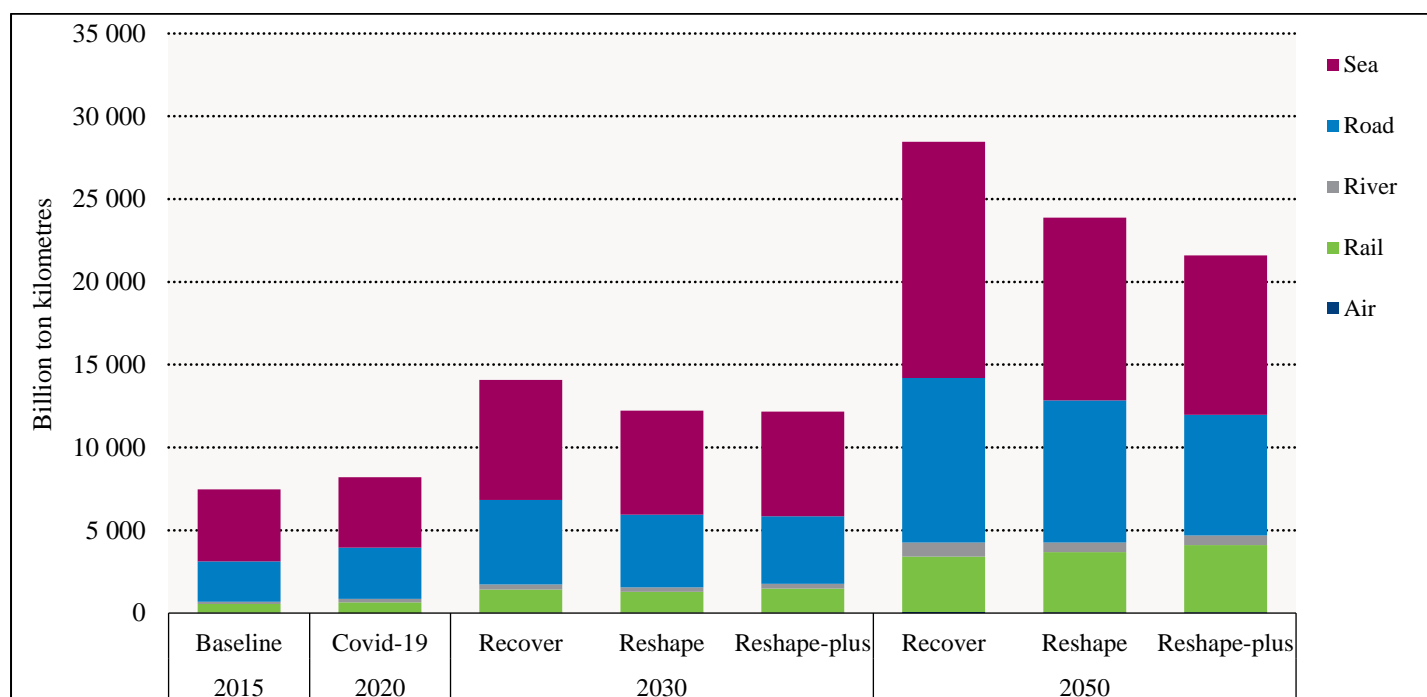
12. Therefore, efficient and resilient multimodal transport is essential for meeting the current and future freight demand. The pandemic experience has already reaffirmed the close interlinkages of all the pieces of the international and regional transport system supporting global supply chains, making the case for seamless transport connectivity even stronger. Even during normal times, it is the integrated transport and logistics system of land-sea-land that supports the fragmented processes of international supply chains, by enabling the continuous movement of goods across borders. During disruptions, the linkages between different parts of the transport and logistics systems come under even greater stress and may become severe bottlenecks in the global supply chains. For instance, in several cases during the pandemic, countries' efforts to keep their ports open for international maritime trade were undermined by restrictions and disruptions in a port's hinterland connections.<sup>7</sup>

13. If multimodality has already proven to be a winning strategy during the pandemic, its importance will only increase in the future. While road and maritime transport will continue to transport the bulk of the regional freight flows, other modes are gaining importance. Rail transport, in particular, is expected to accommodate higher and higher volumes of freight. For example, according to the available estimates, in South and South-West Asia, comparing the recover and the reshape-plus scenarios in 2050, the total demand for air, sea and road transport decreases while the demand for rail transport increases (figure IV). Rail transport, which accounted for 7 per cent of non-urban freight activity in 2015, will capture 12 per cent in the recover scenario, 15 per cent in the reshape scenario and 19 per cent in the reshape-plus scenario by 2050. Progress in this area will depend on the policies that countries in the subregion implement in the coming decades, and specifically their emphasis on development, the improvement of rail infrastructure and the introduction of carbon taxation.

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<sup>7</sup> ESCAP, "Policy responses to COVID-19: transport connectivity in Asia and the Pacific", 22 April 2020.

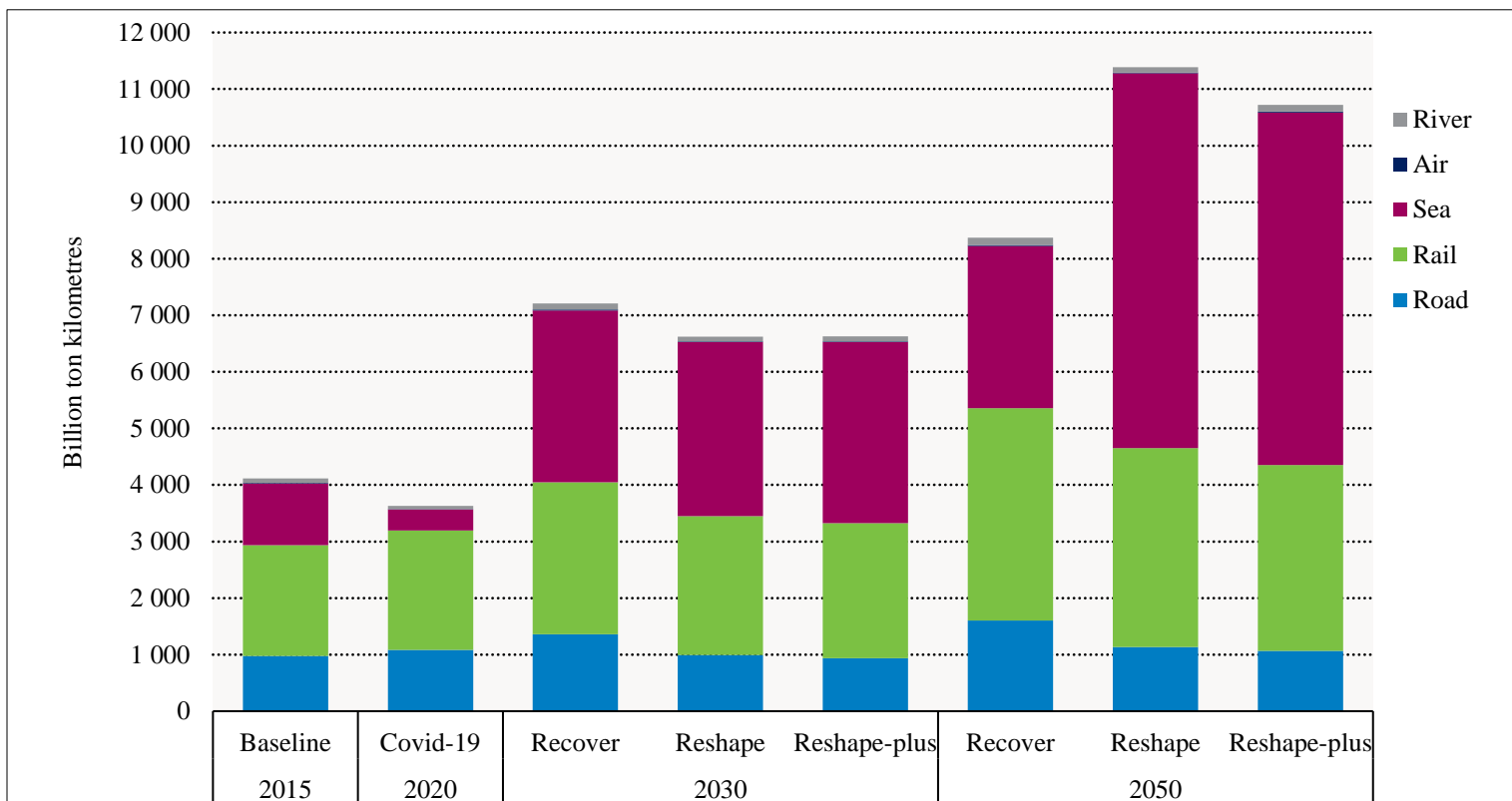
Figure IV  
**Non-urban freight demand, by mode, scenario and year, for South and South-West Asia**



Source: International Transport Forum, *ITF South and Southwest Asia Transport Outlook* (Paris, 2022).

14. The available forecasts also confirm the increasing importance that connecting to seaports holds for the landlocked developing countries in North and Central Asia. In the 2015 baseline scenario, rail and road freight transport accounted for more than 70 per cent of transport activity. Rail alone accounted for 48 per cent. The importance of these two modes became even more marked during the pandemic in 2020; at that point these two modes accounted for nearly 90 per cent of the total transport activity. These results highlight the landlocked nature of many of the countries in the region and also point to potential difficulties for growth, as maritime freight accounts for the largest share of global freight activity. Before the pandemic, sea freight still accounted for 26 per cent of inter-urban freight in the subregion. However, in 2020 the share of maritime transport was reduced to only 10 per cent. As the region’s global international trade increases, it is expected that a significant part of this trade will be maritime. Under the business-as-usual recover scenario, maritime freight is projected to account for 42 per cent of freight activity by 2030, before settling at 34 per cent by 2050. Under the reshape and reshape-plus scenarios, maritime transport is even more significant. Under both scenarios, the maritime share is projected to be above 45 per cent by 2030 and nearly 60 per cent by 2050 (figure V).

Figure V  
**Total non-urban freight activity by mode and scenario, North and Central Asia, to 2050**



Source: International Transport Forum, *ITF North and Central Asia Transport Outlook* (Paris, 2022).

### III. Regional land transport connectivity and logistics

15. As recognized in the Regional Action Programme for Sustainable Transport Development in Asia and the Pacific (2022–2026), advancing regional land transport connectivity and logistics entails acting on multiple fronts. It includes working towards the greater efficiency, sustainability and resilience of the regional land transport network, as formalized by the Intergovernmental Agreements on the Asian Highway Network, the Trans-Asian Railway Network and Dry Ports. It also entails helping to advance the efficiency, sustainability and resilience of land and multimodal transport corridors in the region, enhancing the accessibility of the regional transport network with particular attention to the connectivity gaps adversely affecting landlocked developing countries and other countries with special needs and, finally, assisting in improving the quality and inclusiveness of logistics services and the overall competitiveness of the region’s logistic competencies.

#### A. Towards the greater efficiency, sustainability and resilience of the Asian Highway and Trans-Asian Railway networks and the network of dry ports of international importance

16. Several recently completed or ongoing initiatives are expected to contribute to the greater efficiency, sustainability and resilience of the Asian Highway and Trans-Asian Railway networks and the network of dry ports of international importance.



## **1. Facilitating coordinated infrastructure development in line with the agreed regional infrastructure parameters**

17. There are now 30 parties to the Intergovernmental Agreement on the Asian Highway Network, comprising more than 145,000 km of roads connecting all parts of Asia and all the capitals of the network's members. There are 21 parties to the Trans-Asian Railway network, comprising nearly 118,000 km of railway lines, spanning more than 28 countries. There are currently 17 parties to the Intergovernmental Agreement on Dry Ports, with 269 dry ports listed in the Agreement.

18. Member countries of these networks continue to pursue their work to extend and upgrade their segments of the regional transport network. In Bangladesh, there has been significant progress towards completing two missing links along Asian Highway route 1 with the construction of a 6.15-kilometre-long bridge over the Padma River and the 690-metre-long bridge over the Madhumati River at Kalna point.

19. Along the Trans-Asian Railway network, one of several significant developments has been the opening of the 414 km railway line between China and the Lao People's Democratic Republic, which may provide more sustainable international transport among the member States of the Association of Southeast Asian Nations (ASEAN) and beyond. The railway line would link the ASEAN railway network with railway corridors along the Trans-Asian Railway network, opening new prospects for international railway transport for these countries. The Government of Tajikistan is planning the construction of a new railway line to its free economic zone in Kulyab, in line with the amendment to the list of Trans-Asian railways adopted by the Working Group on the Trans-Asian Railway Network at its seventh meeting, in May 2021. ASEAN member States are also taking practical steps to develop an effective network of dry ports to complement the initiatives on the ASEAN Highway Network and the Singapore-Kunming Rail Link project.

20. In terms of national-level initiatives, the Government of Thailand created the national dry port master plan, including the development of four dry ports to meet the intermodal transport demand between Laem Chabang port and four inland areas in Chachoengsao, Khon Kaen, Nakhon Ratchasima and Nakhon Sawan. The first stage of construction of the Chiang Khong intermodal facility was complemented in December 2020, and the second stage will connect the future Denchai–Chiangrai–Chiang Khong railway link. In the Lao People's Democratic Republic, a new dry port in Thanaleng and the Vientiane Logistics Park, both connected to the new railway line from China, were unveiled on 4 December 2021.

21. In other words, infrastructure connectivity development continues to be dynamic and several additions and updates to the Asian Highway and Trans-Asian Railway networks and the emerging regional network of dry ports have occurred, even during the COVID-19 pandemic, as reflected in the adopted amendments to the Intergovernmental Agreements.

## **2. Harmonizing operational standards, as appropriate, including cross-border and transit requirements, and implementing transport facilitation tools and frameworks**

22. Alongside the infrastructure connectivity issues, the agility of border crossing operations retains its critical importance to transport. The latest discussions of the Working Group on the Asian Highway confirm that cross-border and transit road transport in Asia and the Pacific face considerable

operational challenges due to numerous non-physical barriers.<sup>8</sup> These include restrictions on traffic rights, lack of harmonized standards for freight vehicles and insufficient use of new technologies. Likewise, international border-crossing operations have been recognized by the Working Group on the Trans-Asian Railway Network as one of the main factors affecting the efficiency and competitiveness of rail transport.<sup>9</sup> In turn, the Working Group on Dry Ports underscored the increasing need for continued efforts to enhance the efficiency of transport corridors involving dry ports and to prioritize concrete measures in that regard.<sup>10</sup>

23. One major development in this area is the proposed new annex to the Intergovernmental Agreement on the Trans-Asian Railway Network. At its seventh meeting, the Working Group on the Trans-Asian Railway Network considered the proposal by the Government of the Islamic Republic of Iran to consider the addition of a new annex to the Agreement, entitled “General principles on electronic information exchange/data interchange among railways and between railways and control agencies along the Trans-Asian Railway network”. The annex will provide guiding principles on the topic and would help to streamline complex international rail operations, making rail more competitive and maximizing its resilience potential. The secretariat will support necessary consultations with parties to the Agreement so that the decision could be made at the next meeting of the Working Group.

24. Digitalization, in general, represents the main area for advancing operational connectivity. Digitalization trends, already well advanced in the transport sector, accelerated during the pandemic. At its most recent session, in June 2021, the Working Group on the Asian Highway issued a call to leverage digitalization and smart transport solutions to achieve seamless and sustainable transport connectivity in Asia and the Pacific. The Working Group on Dry Ports also noted the growing importance of contactless solutions, especially in the context of the COVID-19 pandemic and emphasized that the rapid deployment and implementation of information and communications technology at dry ports was imperative to ensure their competitiveness in the transport service market and to build resilience to the current pandemic and future potential disruptions. The Working Group asked the secretariat to reflect those issues in its capacity-building work on dry ports to support the ongoing digital transformation of the transport sector and the COVID-19 pandemic response and recovery.

25. At its seventh meeting, in May 2021, the Working Group on the Trans-Asian Railway Network supported the initiative to develop a regional strategy/framework to deepen digitalization among the railways of the region, especially for the benefit of the landlocked developing countries and least developed countries and requested the secretariat to finalize the strategy or framework for further consideration by the Working Group. With this in view, the secretariat has initiated a background study to identify key issues for regional cooperation to accelerate rail digital transformation in the region and developed a capacity-building activity on rail digitalization in cooperation with the International Union of Railways.

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<sup>8</sup> See ESCAP/AHWG/2021/4.

<sup>9</sup> ESCAP/TARN/WG/2021/5, para. 11.

<sup>10</sup> ESCAP/DP/WG/2021/4, para. 11.

### **3. Supporting a harmonized approach in response to disruptive events in cross-border transport**

26. At its ninth meeting, on 16 and 17 June 2021, the Working Group on the Asian Highway noted that the policy responses immediately following the outbreak had been fragmented and characterized by lack of clarity, which adversely impacted transporters and undermined the seamless logistics and supply chain connectivity. The Working Group recognized that existing legal instruments covering the international carriage of goods and passengers did not include sufficient provisions on cooperation to respond to critical situations such as the COVID-19 crisis and called for Governments to consider inserting crisis-response provisions into bilateral and multilateral transport agreements among member States and/or drafting a model bilateral agreement that would include such provisions.<sup>11</sup>

27. Accordingly, in 2022, the secretariat revised the ESCAP Model Subregional Agreement on Transport Facilitation, which is intended to serve as a common framework for subregional agreements.<sup>12</sup> The current updated version of the Model Subregional Agreement on Transport Facilitation includes an additional description of the force majeure issue in section V (C) and a more detailed proposed annex on force majeure. The model provisions are based on a study on proposals for crisis-response provisions in regional, subregional and bilateral transport agreements, which was conducted as part of the United Nations Development Account project “Transport and trade connectivity in the age of pandemics: United Nations solutions for contactless, seamless and collaborative transport and trade”.<sup>13</sup>

28. In addition, the secretariat, in cooperation with the International Transport Forum, has supported the update to the “COVID-19 recovery guidelines for resilient and sustainable international road freight transport connectivity in ASEAN”.

### **4. Supporting evidence-based approaches to ensure better planning, development and upgrading of the regional transport system**

29. The lack of uniform and reliable information across the region on the current state of land transport infrastructure undermines the capacity of the countries involved to work together when designing and implementing common infrastructure development policies or responding to crisis situations. This was made even more apparent during the COVID-19 pandemic, when the lack of shared platforms and information greatly hindered coordination in response to the disruptions caused by the pandemic.

<sup>11</sup> ESCAP/AHWG/2021/4, para. 7.

<sup>12</sup> ESCAP, “Model Subregional Agreement on Transport Facilitation”, updated 2022 (Bangkok, 2022).

<sup>13</sup> ESCAP, “Transport and trade connectivity in the age of pandemics: contactless, seamless and collaborative UN solutions – proposals for crisis-response provisions in regional and bilateral transport agreements of the ESCAP member States” (Bangkok, 2021).

30. In this context and based on the respective requests of the Working Groups on the Asian Highway,<sup>14</sup> on the Trans-Asian Railway Network<sup>15</sup> and on Dry Ports,<sup>16</sup> the secretariat developed the interactive online Asia-Pacific Transport Network platform, which displays maps of the current extension of Asian Highway and Trans-Asian Railway networks and dry ports of international importance, together with selected shared status and operational information for major routes along these networks. The platform also includes selected information on the maritime ports.

31. The aim of the platform is to facilitate data collection and sharing from the different countries. As a central data resource for coordinating activities on regional transport connectivity, it provides various tools and features for searching, filtering and printing map information. It is under continuous development, and more data and features are added regularly. As the system becomes more mature, the volume of collected data will facilitate in-depth statistical analysis and shared reporting. The first version of the Asia-Pacific Transport Network is available for review for countries to test the interface and check the current situation of their segments of the Asian highways, trans-Asian railways, dry ports and maritime networks.

## **B. Advancing the efficiency, sustainability and resilience of land and multimodal transport corridors in the region**

32. The objective of an efficiently functioning transport corridor, including an interregional transport corridor, is well-designed, maintained, interconnected and interoperable highways, railways, inland waterways, seaports, river ports, airports and dry ports with capacities appropriate to expected traffic volumes, which allow for the smooth flow of vehicles and cargoes between and among countries of the corridor. At the Fourth Ministerial Conference on Transport, ministers emphasized the increasingly important role of transport corridors in enhancing sustainable regional transport connectivity and the need to strengthen the means and mechanisms for transport corridor coordination and management building upon the existing good practices.<sup>17</sup>

33. There are a number of practices for the establishment of coordination mechanisms and/or institutional arrangements through which these issues can be addressed. In some cases, formal corridor agreements have been developed, while in others, a comprehensive set of bilateral, multilateral, subregional and international agreements, as well as technical assistance measures, have been established, which, when taken together, provide the conditions necessary for the smooth operationalization of a particular transport corridor.

34. One of the highlights of the work to support multimodal transport corridors and operations is the finalization in June 2022 of the “Guidelines for harmonization of national laws on multimodal transport in Asia and the Pacific”. The Guidelines were developed by the secretariat as part of the project on enhancing the integration and sustainability of transport networks in Asia and the Pacific through the development of legal frameworks for multimodal transport operations, which was implemented to assist members and associate

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<sup>14</sup> ESCAP/AHWG/2019/4, para. 37.

<sup>15</sup> ESCAP/TARN/WG/2019/6, para. 11.

<sup>16</sup> ESCAP/DP/WG/2021/4, paras. 5 and 12.

<sup>17</sup> ESCAP/78/15, annex II, para. 19.

members in formulating a concept for harmonization of rules for multimodal transportation.

35. The Guidelines are intended to provide a common framework, can be used as a starting point for drafting or amending national legislation, and can serve as a reference for Governments seeking a unified approach to the main thematic topics covered by national legislation. The Guidelines can also be used as a checklist of the main thematic issues that can be covered in national laws on multimodal transport. They describe commonalities and discrepancies in regulation or various approaches and solutions offered by different national laws, international conventions, subregional agreements and industry rules of multimodal transport and contain proposals on how to incorporate solutions into national legislation.

36. The secretariat has also been working on identifying current practices of transport corridor management, including existing formal corridor management agreements, and comparing coordination and management arrangements for several transport corridors in the region, with an aim to design and propose further options for institutional arrangements on management of one or several of these transport corridors.<sup>18</sup> The secretariat identified several critical factors contributing to the success of transport corridors, including intermodal transport corridors. Since any transport corridor consists of a set of links and nodes, any inefficiencies on any links or at any nodes affects the overall efficiency of the whole corridor. To rectify these inefficiencies, those in a position to address them need to know what they are, the nature and extent of their impact, and their location on the corridor. This implies that, regardless of the corridor's institutional arrangements, information should be available on a set of minimal parameters. In this connection, the Working Group on Dry Ports, at its fourth meeting, in June 2021, considered the need for an online tool for collecting data on intermodal transport corridors, utilizing the proposed framework of success factors identified by the secretariat, and requested the secretariat to explore the possibility of developing such a tool that could include the set of initial data collected from members and associate members with the possibility of further updates.

### **C. Addressing connectivity gaps adversely affecting landlocked developing countries and other countries with special needs**

37. The situation of the Asia-Pacific countries in special situations, whose connectivity shortages were amplified by the major recent disruptions, remains a pressing concern for the region. During the pandemic, persisting infrastructure shortages, road-centric transport systems, the low level of digitalization and the limited facilitation of cross-border transport operations were further amplified in landlocked developing countries and their main trading and transit partners by additional cross-border controls and checks introduced to deal with COVID-19. The economic fallout from the pandemic similarly impacted the small island developing States in the Pacific, where decreased exports of primary goods due to reduced demand from major importing countries and decreased demand of imports due to the economic downturn in Pacific island countries further weakened the services of shipping companies.

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<sup>18</sup> ESCAP, *Developing Coordination and Institutional Arrangements for the Management of Intermodal Transport Corridors in the ESCAP Region* (Bangkok, 2019).

38. One of the important positive developments in this area was the increased participation of the countries with special needs, specifically the landlocked developing countries, in the regional transport agreements. Since 2018, three landlocked developing countries (Azerbaijan, the Lao People's Democratic Republic and Uzbekistan) have joined the Intergovernmental Agreement on Dry Ports. Kazakhstan has resumed its consideration of joining the Intergovernmental Agreement on the Trans-Asian Railway Network. Accordingly, the secretariat continues its capacity-building support for the development of dry ports in landlocked developing countries, including (a) the provision of technical assistance to ASEAN member States in developing a network of interconnected dry ports, which, as the first immediate step, includes the development of a database on dry ports in the ASEAN countries and (b) a detailed national study on existing and potential dry ports in Mongolia, followed by a national capacity-building workshop.

39. Furthermore, ESCAP, together with the Economic Cooperation Organization and with financial support from the Islamic Development Bank, supported a project on the commercialization of a railway corridor among Kazakhstan, the Islamic Republic of Iran and Turkmenistan from 2018–2021. Within the ambit of the project, the railway administrations of Kazakhstan, the Islamic Republic of Iran and Turkmenistan signed a memorandum of understanding in November 2021 on the implementation of a rail freight corridor. The memorandum of understanding establishes a permanent working group as a corridor management mechanism to increase the collaboration among the stakeholders to attract freight to the corridor, directly benefiting the two landlocked countries involved, Kazakhstan and Turkmenistan, while indirectly benefiting other landlocked developing countries by providing them access to the sea.

#### **D. Improving the quality and inclusiveness of logistics services**

40. As recognized at the Regional Conference for Logistics Service Providers, which took place in New Delhi on 15 July 2022, logistics service providers in Asia and the Pacific continue to face multiple challenges, including inadequate infrastructure, high fuel and energy prices, complicated border crossings requirements and difficulties in accessing information. At the same time, the negative impact of these challenges can be mitigated by support and training activities to improve the quality and inclusiveness of the logistics sector.

41. Many countries in the region are taking steps to enhance the efficiency and cost-effectiveness of their logistics sector by developing and implementing national strategic logistics policies, which provides an opportunity to bring the concerns and best practices in logistics to the forefront of the public policies. There is also an increasing recognition of the gender imbalance in the sector and the potential significant benefits from increasing the participation of women in the logistics sector. Finally, efforts to support the development of the region's logistics sector have paid attention to the use of new technologies and the increased importance of multimodal operations, especially in terms of human capacity. In response, the secretariat has published several training manuals for logistics providers, including the *Training Manual: Operational Aspects of Multimodal Transport* (April 2022) and the "Training manual: standard of logistics information system" (August 2021). It also organized national capacity-building workshops in Brunei Darussalam, Cambodia and Indonesia in 2021 and the Philippines in 2022.

## IV. Maritime and interregional transport connectivity

42. The Regional Action Programme for Sustainable Transport Development in Asia and the Pacific (2022–2026) positioned maritime and interregional transport connectivity as one of its seven priority areas, focusing on key mechanisms for connecting the region to global supply chains, including regional and multi-stakeholder cooperation, relevant data analysis and normative and technical assistance tools. In this context and bearing in mind the prevailing travel restrictions in Asia and the Pacific, policy discussions on interregional land transport and maritime connectivity were held as part of the Asia-Pacific Regional Forum on Connecting to Global Supply Chains through Interregional Land Corridors and Maritime Routes (22 and 23 June 2022). The background and results of these discussions are presented in the next sections.

### A. Interregional transport connectivity

43. Strong trade and transport ties between Asia and Europe have a long-standing tradition. There has been considerable growth in the volume of such interregional trade in the past decade, resulting in a considerable increase in transportation between Asia and Europe by land. According to the data published by the European Commission, the Asian region accounted for 35 per cent of the European Union's exports and 45 per cent of the European Union's imports in 2018.<sup>19</sup> As freight transport movement is based on trade flows, the relatedly high level of trade between Asia and Europe also implies a high level of freight transport demand between these two regions.

44. While the pandemic has heavily impacted transport connectivity across the globe since its onset in 2020, including along the various corridors between Asia and Europe, rail freight transport volume has increased. Notably, between January and February 2020, transport volume increased 12 per cent compared with the similar period in 2019. This demonstrates that demand for land transport connectivity between Asia and Europe remains strong as growing interregional trade between the two regions continues to be a major trend leading to the need for increased capacity for goods transportation, including moving goods by land.

45. At the Fourth Ministerial Conference on Transport, ministers acknowledged the continuing growth of transport operations between Asia and Europe, despite the pandemic, and emphasized the need to expand coordination, including at the interregional level, to enhance the integration of the Asia-Pacific region into Euro-Asian supply chains.<sup>20</sup>

46. There are, however, still opportunities to further strengthen cooperation between the two regions, specifically with regard to transport connectivity. Likewise, there is a significant potential for transport connectivity between Asia and Europe to grow and improve, once the barriers to seamless, sustainable and resilient transport connectivity between Asia and Europe are reduced or removed. This requires addressing traditional and new challenges in the Asia-Europe transport links.

<sup>19</sup> See Joint Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions and the European Investment Bank entitled "Connecting Europe and Asia – Building Blocks for an EU Strategy".

<sup>20</sup> ESCAP/78/15, annex II, para. 20.

## 1. Traditional and new issues in interregional transport connectivity

47. Enhancing connectivity between Asia and Europe entails addressing multiple challenges, including mismatched and ill-equipped intercountry connections, physical obstacles at border-crossing points and non-physical barriers such as those emerging from restrictive and non-harmonized rules and regulations. Connectivity is also hampered by the lack of standardization in transport documents, inconsistent technical standards and incompatible or suboptimal operating procedures.<sup>21</sup>

48. These root problems and challenges were described in detail in the secretariat's report on progress in enhancing transport connectivity between Asia and Europe, published in December 2020.<sup>22</sup>

49. The impact of the COVID-19 pandemic and the crisis in Ukraine created new disruptions, including to land-based routes. As mentioned before, during the COVID-19 pandemic, the rise in sea freight rates led to an increase in Asia-Europe rail transport; however, the current crisis is causing disruptions not only in the Asia-Europe rail logistics network but also in the maritime transport routes. The crisis has led to a lot of uncertainties on a range of issues related to the functioning of the regional supply chains. Overall, freight rates increased production and other costs, contributing to inflation and hindering growth in many countries of the region. As a result, countries are now looking for alternative routes for interregional land transportation between Asia and Europe, which may result in significant reshaping of transport routes connecting the two regions by land.

## 2. Further opportunities for regional cooperation in interregional connectivity<sup>23</sup>

50. Transport cooperation between Asia and Europe retains its importance despite current challenges and requires continued support for the development of coordinating and management arrangements for transport corridors, including interregional transport corridors, as well as the creation of efficient regulatory frameworks for transport corridors, including multimodal transport corridors.

51. As demonstrated by the pandemic response in Asia and the Pacific and beyond, several practical measures can help to increase the resilience of transport corridors and other transport linkages to external shocks, such as the following measures:

(a) The development, deployment and implementation of digital solutions for seamless operation of land and multimodal transport routes and corridors;

<sup>21</sup> See E/ESCAP/MCT(3)/5.

<sup>22</sup> ESCAP, *Connecting Transport Infrastructure Networks in Asia and Europe in Support of Interregional Sustainable Transport Connectivity: Progress in Enhancing Transport Connectivity between Asia and Europe* (Bangkok, 2020).

<sup>23</sup> This section is based on part I of the conclusions and recommendations of the Asia-Pacific Regional Forum on Connecting to Global Supply Chains through Interregional Land Corridors and Maritime Routes. Available at [www.unescap.org/sites/default/d8files/event-documents/June22-23\\_Conclusions-Recommendations\\_Final.pdf](http://www.unescap.org/sites/default/d8files/event-documents/June22-23_Conclusions-Recommendations_Final.pdf).



(b) The simplification and harmonization of rules and regulations that could help transport routes/corridors to function in case of external disruptions;

(c) The promotion of the diversification of routes for the transport of goods, as well as of the implementation of advanced multimodal transport solutions.

52. It is also important to identify practical solutions to increase the environmental sustainability of land transport corridors and routes. Such solutions could include promoting the use of more sustainable modes of transport, such as rail and inland waterway transport, as well as introducing other viable means of decarbonization of land/multimodal transport operations.

53. Further development of sustainable interregional transport connectivity is contingent upon the following considerations:

(a) Continued support for interregional dialogues on land transport connectivity to facilitate the exchange of information and updates between ESCAP member States and countries from different regions;

(b) Continued provision of technical assistance to member States for the development of sustainable transport corridors in the Asia-Pacific region;

(c) Strengthened cooperation with implementation partners, including other regional commissions and United Nations agencies, international and subregional organizations and transport and logistics industry professional associations on the matters of transport corridors and interregional connectivity;

(d) Further development of overall concept and policy frameworks for more environmentally sustainable (or green) transport corridors.

## **B. Sustainable maritime connectivity**

54. The importance of maritime transport to global supply chains makes maritime connectivity a central consideration for the developing countries in Asia and the Pacific, which comprise a great number of coastal countries but also the small island developing States. The region also has a dominant position in major shipping activities, such as shipbuilding, ship-owning and ship-scraping industries. The challenges in making the maritime connectivity of Asia and the Pacific more sustainable and inclusive are constantly evolving and require both tailored national policies and strengthened regional cooperation.

### **1. Traditional and new challenges to sustainable maritime connectivity**

55. The major traditional challenge in this area is bridging the maritime connectivity gap for more inclusive growth. The economic power of countries in Asia and the Pacific varies greatly depending on population, territory and industrial structure. This concentration and difference in economic power and trade volume between countries affects investment capabilities and technology development in the port and logistics sectors of member countries. In particular, the Pacific islands have difficulties in securing financial resources for investment in port facilities or developing integrated transport infrastructure, which limits efficient connectivity with the global supply chain. For shipping and logistics services in the Pacific, economic cooperation with other countries

is restricted due to geographical and economic constraints, resulting in a vicious cycle of stagnating economic development.<sup>24</sup>

56. National and sectoral policies play a major role in improving maritime connectivity. The development strategies of large ports that handle 20 million twenty-foot equivalent units and of small ports that handle 100,000 twenty-foot equivalent units are very different. For example, in the case of the Pacific island countries, most ports are suitable for multipurpose terminals rather than container-dedicated terminals. There is a growing awareness of the importance of establishing a mid- to long-term port development master plan at the national level and of a plan to integrate ports with the entire national transport infrastructure. Still, many countries have difficulties in establishing integrated transport policies due to the fragmentation of authority and responsibility for the development of transport infrastructure, divergent interests related to port development between the relevant ministries, as well as the central and local governments, and frequent lack of coordination.<sup>25</sup>

57. Ensuring the resilience and environmental sustainability of maritime and port services is another major concern for the region, which has had a high rate of port development in the recent past. Currently, there is a divide in the Asia-Pacific region between countries with high ambitions related to decarbonizing shipping and other countries that find it difficult to implement this commitment due to a lack of investment resources, technological gaps, insufficient institutional and legal frameworks, and a lack of human capacity. This divide is difficult to bridge with further regulations but could be addressed by disseminating information on the best and most innovative initiatives and practices related to decarbonizing shipping.

58. One example of such an initiative, which is supported by ESCAP, is the Clydebank Declaration for Green Shipping Corridors, adopted at the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, which aims to establish zero-emission maritime routes between two or more ports. Twenty-four countries, including ten States members of the Commission, signed on to the Declaration, pledging to act collectively to demonstrate by 2025 the viability of multiple green shipping corridors. A green shipping corridor is a maritime route with low-emission and zero-emission lifecycle fuels and technologies, with the aim of achieving zero greenhouse gas emissions in all aspects of the corridor, in support of sector-wide decarbonization no later than 2050. The first such agreement was reached by the authorities of the ports of Los Angeles, United States of America, and Shanghai, China, and a second was made by the Maritime and Port Authority of Singapore and the Port of Rotterdam Authority. If more ESCAP member States joined this or similar initiatives, there would be an immediate impact on the decarbonization of the shipping sector.

59. At the same time, some countries in the region are struggling with a shortage of experts and skilled workers in the maritime sector. While the port sector has, undoubtedly, entered the information age and hyper-connected era, many ports in the region still lack the ability to improve workers' information technology-related work capabilities. In addition, it takes a long time to secure consensus among stakeholders on relocation of personnel as well as on education and training activities, in response to terminal automation and

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<sup>24</sup> ESCAP, *Status Report on Sustainable and Resilient Ports and Maritime Connectivity in the Pacific Region* (Bangkok, 2022).

<sup>25</sup> ESCAP, *Supporting a Shift to Greater Sustainability in Selected Ports of Asia* (Bangkok, 2022).

informatization. The demand for online business processing has increased due to the pandemic, but the development of and training activities on information systems and the needed reengineering of business processes have not kept up with these demands.

60. While some countries face difficulties due to the shortage of skilled workers in specialized and high-tech fields, in other countries the ageing of the workforce or the workforce shortage is becoming an issue. Some countries rely on elderly and overseas workers due to a shortage of workers such as seafarers and truck drivers and are making efforts to address this lack through informatization and automation, but the essential lack is still an issue. It is important to note that the shipping and port sectors are still male-oriented sectors. In some ports, female workers operate automated facilities and information devices, but gender equality and women's empowerment remain important issues in the maritime and port sector.

61. Finally, effective decision-making relies on reliable statistics and data, but in some countries, relevant statistics are insufficient, thereby hindering accurate analysis of the current status and future prospects. For example, in the country port traffic statistics of the United Nations Conference on Trade and Development, there are no statistics for 13 of the ESCAP member States, especially small island developing States. The absence of such basic statistics hinders the establishment of a port development plan based on the demand for port traffic volume by country. In some countries, insufficient statistics collection and management systems are combined with manual procedures, making it difficult to manage data quickly and accurately.

## **2. Further opportunities for regional cooperation in sustainable maritime connectivity<sup>26</sup>**

62. Addressing maritime connectivity gaps in Asia and the Pacific requires comprehensive, long-term and tailored maritime transport development strategies that take into account multidimensional factors and the diversity and characteristics of each country and subregion in the Asia-Pacific region. Currently, the secretariat is working with selected countries in South-East Asia and the Pacific on national policies for sustainable maritime and port connectivity for resilient and efficient supply chains. This works focuses on the economic, social and environmental aspects of maritime connectivity, taking into account the specific national context in the selected countries. The results will be presented at the next regional forum on sustainable maritime connectivity to disseminate best practices and identify opportunities for strengthened regional cooperation.

63. Promoting more environmentally sustainable (or green) shipping initiatives, such as green shipping corridors, requires a strategic regional approach mobilizing regional cooperation and partnership with a wide range of stakeholders. This includes governmental agencies, international organizations, subregional institutions, multilateral development banks, research institutes and the private sector. A regional cooperative system that includes a stepwise approach and a detailed action plan for the practical implementation of green shipping corridors on the selected routes would be

<sup>26</sup> This section is based on part II of the conclusions and recommendations of the Asia-Pacific Regional Forum on Connecting to Global Supply Chains through Interregional Land Corridors and Maritime Routes. Available at [www.unescap.org/sites/default/d8files/event-documents/June22-23\\_Conclusions-Recommendations\\_Final.pdf](http://www.unescap.org/sites/default/d8files/event-documents/June22-23_Conclusions-Recommendations_Final.pdf).

highly useful to incentivize the relevant public and private actors to take up the green corridor initiative.

64. Finally, there is a need for additional research on maritime connectivity, especially between the ASEAN region and the Pacific. This activity could build upon the multilateral development banks' work in this field, which has already yielded tangible results. The secretariat should expand research, capacity-building and training projects in cooperation with international and regional agencies to strengthen sustainable maritime connectivity and port development, based on awareness of the challenges and opportunities members and associate members face.

## **V. Issues for consideration by the Committee**

65. The Committee on Transport may wish to take the following actions:

(a) Provide feedback and guidance to the secretariat on ongoing and planned activities in the areas of efficient and resilient transport and logistics networks and mobility for economic growth, including the proposals on a new annex to the Intergovernmental Agreement on the Trans-Asian Railway Network on electronic information exchange;

(b) Welcome the finalization of the "Guidelines for harmonization of national laws on multimodal transport operations in Asia and the Pacific";

(c) Welcome the revised Model Subregional Agreement on Transport Facilitation, in which the issue of crisis-related provisions in the road transport agreements is addressed;

(d) Call for renewed support to enhance the transport connectivity of the countries in special situations, including through initiatives such as the creation of a regional strategy to accelerate rail digital transformation in Asia and the Pacific;

(e) Welcome the evidence-based approaches to ensure better planning, development and upgrading of the regional transport system and in particular the initiative to establish the interactive platform, the Asia-Pacific Transport Network, and request members and associate members to work closely with the secretariat on testing the interface and checking the current situation of their segments of the Asian highways, trans-Asian railways, dry ports and maritime networks;

(f) Take note of the conclusions of the Asia-Pacific Regional Forum on Connecting to Global Supply Chains through Interregional Land Corridors and Maritime Routes. In doing so the Committee may wish to request the secretariat to follow up on the proposal to create a regional approach to green shipping corridors and to continue supporting the initiatives to develop land and multimodal transport corridors in Asia and the Pacific, including through the exploration of new interregional transport routes and corridors.