ENHANCING REGIONAL ECONOMIC COOPERATION AND INTEGRATION IN ASIA AND THE PACIFIC

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

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The Economic and Social Commission for Asia and the Pacific (ESCAP) serves as the United Nations' regional hub promoting cooperation among countries to achieve inclusive and sustainable development. The largest regional intergovernmental platform with 53 member States and 9 associate members, ESCAP has emerged as a strong regional think-tank offering countries sound analytical products that shed insight into the evolving economic, social and environmental dynamics of the region. The Commission's strategic focus is to deliver on the 2030 Agenda for Sustainable Development, which it does by reinforcing and deepening regional cooperation and integration to advance connectivity, financial cooperation and market integration. ESCAP's research and analysis coupled with its policy advisory services, capacity building and technical assistance to governments aims to support countries' sustainable and inclusive development ambitions.

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FOREWORD

The countries of Asia and the Pacific have worked steadily to enhance regional cooperation and integration over several decades to unlock the benefits of shared prosperity, stability and sustainability. Yet, progress has been uneven and the region's overall integration is still at a formative stage. East Asia is the most integrated, South-East Asia ranks second, followed by South Asia, Central Asia and the Pacific. There is still great potential to further cooperation and deepen integration across the region.

The adoption of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals has created a new impetus for re-strategizing the region's integration. Greater regional economic cooperation and integration (RECI) can offer solutions to the pervasive problems of poverty and inequality facing the Asia-Pacific region that are at the core of the 2030 Agenda. As several of the Goals are transboundary in nature, effective action requires a regional approach, drawing on regional cooperation and cross-border solutions to complex challenges, such as climate change, disaster risk reduction, ecosystem and natural resource management, and sustainable energy. The emergence of large-scale and ambitious regional integration plans, such as the Eurasia Initiative and the Belt and Road Initiative, which propose economic corridors connecting the Asia-Pacific region to Europe and Africa, has further highlighted the region's desire for a future based on deeper integration.

Subregional cooperation and integration has progressed in different phases over the last several decades, influenced by changing ideas and attitudes towards globalization. Trade and investment liberalization across several economies has gained momentum, as the potential of globalization to bolster economic progress and raise living standards has been increasingly recognized. These policies have resulted in considerably rapid economic growth and helped reduced extreme poverty in the region. Despite the progress, the benefits have not been shared equally and inequalities of income and opportunities are high and increasing in some countries.

The Economic and Social Commission for Asia and the Pacific, as the leading intergovernmental organization in the region, is well positioned to drive a transition to a more integrated and connected Asia and the Pacific. ESCAP provides an inclusive and multisectoral platform for the region, which is now geared for regional implementation of the 2030 Agenda for Sustainable Development. Through this platform, ESCAP works with member States to forge region-wide agreements on infrastructure, promotes harmonization of cross-border standards and provides technical assistance. As part of its broad-based strategy, ESCAP has committed itself to work with member States to advance RECI in four broad areas: (a) moving towards the formation of an integrated market; (b) development of seamless connectivity in the region; (c) enhancing financial cooperation; and (d) increasing economic cooperation to address shared vulnerabilities and risks. By advancing the four RECI pillars simultaneously, there is great scope to accelerate progress towards the achievement of the Sustainable Development Goals in the Asia-Pacific region. Both initiatives, if implemented in a coherent manner, are by their nature mutually reinforcing. Deepening RECI can promote inclusive and sustainable approaches for supporting economic growth for countries at different stages of development, address transboundary Sustainable Development Goals and bolster the means of implementation, such as through trade and finance. Correspondingly, using the framework offered by the Goals to progressively guide RECI would promote balanced and sustainable infrastructure to service small, low-income and geographically disadvantaged countries.

This report aims to inform how the region can most effectively pursue these objectives. It examines in detail the challenges and opportunities across the four pillars that underpin regional cooperation and integration. It also provides policy options for more immediate progress and recommendations on how to best lay the foundations for long-term integration in the region.

The report underscores that to deliver the best results for the region, the four pillars of RECI need to be developed in an integrated manner. One of the key objectives of RECI is to expand trade and investment through better market integration, which, in turn, requires seamless connectivity in transport, energy, and information and communications technology. Developing this infrastructure requires adequate financial resources, deep and connected financial markets and stable financial and economic conditions. Therefore, a coordinated multisectoral regional approach to RECI is integral to its success.

The obstacles to achieving an integrated Asia-Pacific region are substantial and require the following: continuous efforts aimed at developing trust and political will, building regional governance, harmonizing complex regulatory frameworks and funding infrastructure. Working together, we can overcome these challenges and realize the full potential of an integrated Asia-Pacific region.

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EXECUTIVE SUMMARY

Further developing and deepening regional economic cooperation and integration (RECI) in the Asia-Pacific region offers solutions to emerging challenges, such as mitigating protectionist tendencies, reducing rising inequalities, and addressing environmental degradation. Through enhancing regional connectivity for energy, transport, and information and communications technology (ICT), and promoting regional cooperation in trade, financing and shared vulnerabilities, RECI offers enormous potential in generating trade, economic growth and employment, improving social outcomes and managing environmental risks. This presents the possibility to develop RECI as a critical enabler of the 2030 Agenda for Sustainable Development in Asia and the Pacific.

The Bangkok Declaration on Regional Economic Cooperation and Integration in Asia and the Pacific, adopted at the first Ministerial Conference on Regional Economic Cooperation and Integration in December 2013, sets an agenda for RECI in the Asia-Pacific region consisting of four elements: (a) moving towards the formation of an integrated market; (b) development of seamless connectivity in the region; (c) enhancing financial cooperation; and (d) increasing economic cooperation to address shared vulnerabilities and risks. This report presents the views of the ESCAP secretariat on how to advance the RECI agenda in the region to support the implementation of the Bangkok Declaration.

Enhancing RECI is important because the relative importance of region's traditional export markets has decreased since the 2008 global financial and economic crisis. During the period 2001-2005, North America and the European Union (EU) represented 61.5 per cent of world gross domestic product (GDP), compared to 27.1 per cent for Asia and the Pacific. However, 10 years later, during the period 2011-2015, the share of Asia and the Pacific in global GDP increased to 36.1 per cent while that of North America and EU declined to 47.9 per cent. The emergence of protectionist sentiment in Europe and North America, as indicated, for instance, by the 2016 vote in the United Kingdom of Great Britain and Northern Ireland to leave the European Union or the withdrawal of the United States of America from the proposed Trans-Pacific Partnership in 2017, is another reason why the region should consider enhancing RECI.

The Bangkok Declaration pointed to the enormous opportunities that RECI offers to the region in the context of economic uncertainties after the global financial and economic crisis of 2008. It also emphasized that with the rising economic prominence of the Asia-Pacific region in the world economy, the promotion of intraregional trade within Asia and the Pacific can provide enormous opportunities for supporting economic growth and employment creation in the region.

With a combined GDP of US$27.25 trillion that is growing rapidly, Asia and the Pacific is well on its way to becoming the most important market in the world, opening possibilities for further expansion of trade and investment within the region. This could contribute to job creation, poverty reduction and the boosting of economic growth throughout the region.

Regional economic cooperation and integration can also support the implementation of the 2030 Agenda by generating large opportunities for enhancing employment and incomes across the region. These opportunities can directly support the achievement of some of the Sustainable Development Goals, particularly Goal 8: promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. The large investment in transport, energy and ICT infrastructure promoted by RECI also contributes directly to Goal 7: ensure access to affordable, reliable and modern energy for all, and Goal 9: build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. Moreover, the favourable impact of RECI on economic growth across the region can contribute to the mobilization of much needed public resources, without which it would be difficult for low-income countries to make much progress in achieving the Goals.

The relationship between RECI and the 2030 Agenda is bidirectional. RECI can support the attainment of the Sustainable Development Goals, while the Goals will likely play a vital role in guiding the implementation of RECI. This can happen, for instance, by ensuring that infrastructure projects have favourable social and environmental, as well as economic, impacts. Ensuring that infrastructure projects connect small, low-income and geographically distant countries with the main markets of the region and placing high priority on dealing with transboundary vulnerabilities and risks are other ways in which the 2030 Agenda can inform how RECI can be most effectively implemented

Market integration

Market integration is a fundamental aspect of RECI, as it implies a larger production and/or consumption space with easier movement of outputs and factors of production (goods and services, capital and labour). Rapid growth in merchandise trade has contributed to considerable economic progress in the region, and it can be further enhanced through RECI. However, the expansion of merchandise trade is being impeded by high bilateral trade costs within the region. The largest costs are associated with non-tariff barriers, regulatory and procedural burdens, and high transport costs, which together can account for as much as 60 to 90 per cent of total trade costs.

An additional impediment to market integration is the existence of multiple regional trade agreements and complexities arising from complying with different rules of origin. There is a plethora of overlapping and often inconsistent regulatory frameworks related to trade, investment or transport, known as the "noodle bowl". Contrary to their intention to open market access, multiple preferential trade agreements tend to create inefficiencies and lead to higher transaction costs. The noodle bowl effect can be minimized through improved coordination, mutual recognition or harmonization of regulatory frameworks.

Hidden forms of protectionism, such as regulatory and procedural border processes, can be tackled through trade facilitation measures. For instance, ESCAP member States adopted the Framework Agreement on Facilitation of Cross-Border Paperless Trade in Asia and the Pacific in May 2016. Similarly, common investment regimes should replace and not add to the existing noodle bowls of international investment regimes that mirror the noodle bowl of preferential trade agreements. Special economic zones can also play a role by providing essential infrastructure, but they need to be carefully managed and regulated to ensure that they provide linkages with the economy at large and are socially and environmentally sustainable.

The region is a major global destination for investment, which is reflected by the inflows into the region and between countries within the region. More recently, Asia-Pacific countries have quickly gained global prominence as major outward investors as well. In 2015, investment outflows from developing Asian economies reached $323 billion, representing 30 per cent of global foreign direct investment (FDI) flows. However, the noodle bowl of multiple investment agreements, which are not always aligned with sustainable development principles, are adversely affecting further increases in FDI flows. Countries need to promote regional investment regimes in a manner that better balances investor rights with host country development needs. This would enable countries to not only attract more FDI to contribute to sustainable development, but also to achieve better market integration.

Despite its positive evolution and importance from a social perspective, labour market integration is lagging other forms of integration. Mechanisms to promote orderly migration fail to match the demand and supply of migrant workers. This results in irregular migration, which entails a high risk of exploitation and abuse of migrant workers. Through cooperation on labour migration policies, migrant workers can be fairly treated and contribute to host country development processes, for example, by spurring technology transfer and innovation. To enable such positive spillover effects, inclusive regulatory frameworks should be in place. These could include the development of harmonized regional qualification frameworks that support job-matching and the creation of regional labour markets. The development of common procedures for the payment of social benefits across borders also deserves policy attention.

Seamless connectivity

Infrastructure connectivity encompassing transport, energy and ICT links within and between countries is underdeveloped in Asia and the Pacific, especially in countries with special needs. The focus of RECI on seamless connectivity aims to develop connectivity that enables the freer movement of people, goods, energy and information. The current state of infrastructure in several countries of the region is below par compared with similar countries in other regions. This disproportionately affects the poor and rural people and impedes poverty reduction efforts. Infrastructure gaps also hamper economic growth by limiting economic diversification, movement of goods, people-to-people contacts, access to energy and the development of global value chains.

Seamless connectivity encompasses both "hard" and "soft" infrastructure. Soft infrastructure includes legal, regulatory, procedural, and other supporting policy frameworks, as well as human and institutional capacities, while hard infrastructure relates to physical networks, such as roads, railways or ports.

A particularly important initiative that could support further moves towards enhanced RECI in the Asia-Pacific region is China's Belt and Road Initiative. The initiative aims at enhancing seamless connectivity through a multimodal network that connects road and rail routes with seaports, expands energy networks through oil and gas pipelines and regional power grids, and extends ICT fibre optic links from China to Europe through Central Asia. Building this infrastructure and establishing economic corridors is essential for the region to make significant progress in other components of RECI, such as promoting trade and investment flows.

Beyond sector-specific constraints, many challenges are common to the three connectivity sectors, most of which relate to lack of planning and coordination. First, most cross-border connectivity projects are typically negotiated bilaterally between parties. This results in projects that are fragmented, not well-coordinated and, consequently, burdened with high transaction costs. Second, regional infrastructure projects invariably involve asymmetric costs and benefits across countries and groups of people, which entails large externalities and thus needs fair compensation. Third, careful planning and coordination are often absent because of a lack of resources, appropriate institutional mechanisms, and/or differences in legal and regulatory regimes. Finally, as most infrastructure networks are domestically centred, with cost-benefit analyses typically assessed from a domestic return-on-investment perspective, the regional public good value associated with the projects is heavily discounted.

Strong regional political will and agreed regional visions among countries are critical for establishing effective, region-wide planning and coordination mechanisms for regional connectivity. To expand the existing physical networks of transport, energy and ICT, these factors must be considered holistically, which may yield significant cost and time savings. For instance, the costs of deploying terrestrial fibre networks can be significantly reduced if the work is undertaken along major roads, railways, power transmission lines, pipelines or waterways. Furthermore, regionally accepted, transparent and fair rules and regulations need to be put in place for internalizing and monetizing asymmetric costs and to ensure the fair distribution of costs and benefits among stakeholders. This could be done with an effective and credible compensation mechanism for affected groups and countries.

Financial cooperation

After the Asian financial crisis of 1997, regional financial cooperation in the region has focused on improving macroeconomic and financial surveillance, providing emergency liquidity support and protecting economies from excessive financial market and capital flow volatility, and fostering the development of local currency bond markets. Examples of initiatives in these areas include the ASEAN+3 Economic Review and Policy Dialogue, the Chiang Mai Initiative Multilateralisation, the Eurasian Economic Community Anti-Crisis Fund, the Reserve Bank of India Framework on Currency Swap Arrangements for SAARC member countries, the Asian Bond Fund and the Asian Bond Markets Initiative.

With respect to improving financial surveillance and providing liquidity support, efforts could be made to gradually reduce the current fragmentation of subregional facilities and frameworks and cross-country procedural differences, and to move towards a region-wide crisis management framework as a long-term goal. With regard to the development of the region's capital markets, it is important to strengthen both the demand and the supply sides by developing a diverse issuer and investor base. In that context, it is important to foster the development of domestic institutional investors with long-time horizons, such as insurance companies, pension funds and asset management companies. It is also important to further develop national financial market infrastructures, including the regulation of the issuing and trading bonds and securities, payment systems, central securities depositories and cross-border clearing and settlement systems.

After the adoption of the 2030 Agenda for Sustainable Development, three other areas of financial cooperation need to be considered: infrastructure financing, public domestic resource mobilization and financial inclusion.

Different measures can be adopted to enhance funding and financing of infrastructure investments. Funding can be improved through mechanisms to enhance cost recovery, higher efficiency operating infrastructure facilities, or more efficient fiscal management. Financing can be improved through deepening financial markets, favouring efficient financial intermediaries through competition in the financial sector, and strengthening financial institutions and regulations. Mechanisms, such as public-private partnerships (PPPs) may help to significantly boost infrastructure investments. The establishment of dedicated financing mechanisms of cross-border projects could also help to raise their priority level while serving as a coordination platform among the involved countries.

Because of the generally low tax-to-GDP ratios in the region, there is considerable scope to enhance domestic resource mobilization. For that purpose, Asia and the Pacific needs to develop a regional approach and vision about public finance strategies and policies. This calls for the rethinking and recalibration of existing policies and practices associated with sustainable development principles and the region's challenges and priorities, such as rapid urbanization and widening inequality. To address the regional challenges to enhance domestic resource mobilization as a means of implementation of the 2030 Agenda, there is need for a broad-based discussion among policymakers, tax administrators and relevant regional and subregional organizations in the Asia-Pacific region.

Finally, enhancing access to financial services is important to reduce poverty and promote economic growth and employment generation through the dynamism of small and medium-sized enterprises. In this regard, fintech companies have enormous potential to enhance financial inclusion. However, there are potential risks to financial stability that can arise if the expansion in the access to credit in the economy occurs too rapidly. Risks include excessive indebtedness of low-income borrowers, fraud, high transaction costs and exploitation of customers. To mitigate those risks, appropriate supervision and regulatory frameworks must be developed to support the extension of financial inclusion.

Shared vulnerabilities

Improving the collective management of shared vulnerabilities and risks is a major challenge that needs to be dealt with through regional cooperation. On disaster risk reduction, there are three areas where cooperation can be fruitfully expanded.

First, a regional action plan for multi-hazard early warning systems could be set up, in order to: (a) strengthen the existing regional cooperation platforms for tropical cyclones by extending coverage to the Pacific; (b) deepen partnerships with key stakeholders for effective end-to-end tsunami early warning systems; (c) establish regional cooperation and data-sharing mechanisms, prioritizing flood forecasting in transboundary river basins where poverty is very high and glacial floods and landslides occur; and (d) extend the ESCAP regional drought mechanism to cover underserved countries.

Second, ESCAP, through its work in space application and multi-hazard early warning systems, could develop methodologies and guidelines for risk assessment and mapping and scenario-based impact outlooks for slow-onset disasters. Such tools can help build capacities in countries at high risk, from the national level to the community level.

Third, regional peer learning could be promoted with respect to index-based, or parametric, insurance and risk pooling to increase the efficiency and effectiveness of risk transfer mechanisms based on advances in space applications, mobile technologies, and weather and climate models.

With regard to food security, countries in the region could increase cooperation to (a) build integrated regional food markets to insure against localized food production shortfalls that a country alone may not be able to withstand; (b) coordinate policies and sharing information for sustainable food production; (c) manage transboundary resources better, thus minimizing potential impacts arising from climatic changes; and (d) pool food security risks through innovative mechanisms.

In addition, it is important to cooperate to enhance the quality and safety of food by harmonizing sanitary and phytosanitary standards and certification mechanisms, simplifying and increasing the transparency of administrative procedures and documents and implementing them with more vigour. Coordinating policies and sharing information can increase food production, allowing for greater use of comparative advantages based on regional differences in the soil and climatic conditions suitable to produce different varieties of plants and animals. This can also promote the use of better plant varieties, genetic resources and inputs available within larger geographic regions.

Finally, opportunities to use better technology in agricultural production, reducing post-harvest losses and knowledge in food preparation and processing, can also lead to improved food security outcomes. Sharing information on production systems, technology and other information required for food production can be a fundamental force in enhancing countries' trust on the regional food markets. In that regard, sharing knowledge on transboundary plant and animal diseases has become an essential component of agricultural policy because of the increased likelihood that diseases will spread in the current global production and consumption systems.

Way forward for regional economic cooperation and integration in the Asia-Pacific Region

Harnessing the synergies between the 2030 Agenda for Sustainable Development and RECI should be a major consideration in moving forward. This requires that both are pursued in an integrated manner within multilateral frameworks to maximize the coherence and coordination between them. For instance, expanding trade and investment through market integration is a major objective of RECI, and can positively contribute towards the achievement of several Sustainable Development Goals. This, in turn, would require seamless connectivity in transport, energy, and ICT, which also contribute directly to the achievement of several of the Goals. Leveraging existing and new regional cooperation initiatives to boost physical infrastructure investments, as well as pursuing intergovernmental facilitation agreements and action to simplify regulations is critical for achieving seamless connectivity. However, seamless connectivity is also difficult to achieve without adequate financial resources, deep and connected financial markets, and stable financial and economic conditions. Similarly, vulnerabilities emanating from transboundary environment and disaster risks need to be dealt with in an effective manner to continue to move forward towards attaining shared prosperity, the essence of the Sustainable Development Goals.

Improved coordination, mutual recognition and harmonization of regulatory frameworks can be achieved through an inclusive regional intergovernmental platform, such as ESCAP. The Commission's multidisciplinary, cross-sectoral technical expertise positions the organization to simultaneously accelerate progress across all four pillars of RECI and bring together member States, subregional organizations and other relevant institutions working on RECI. It can draw on its long-standing normative and research work on the constituent elements of RECI to forge regional agreements, better understand the costs and benefits of RECI, develop cross-sectoral synergies and connect RECI to global initiatives and frameworks for action on sustainable development, financing for development and climate change.

ESCAP is working to strengthen regional economic cooperation and integration and support member States in efforts to implement the 2030 Agenda through its existing intergovernmental committees in areas such as transport, ICT, energy, financing for development, trade and disaster risk reduction. The secretariat plans to continue to work with all relevant subregional organizations that can contribute to strengthening technical cooperation through ambitious regional initiatives, such as the Belt and Road Initiative. The time has come to build on the long-standing normative work of ESCAP to take regional economic cooperation and integration to its next phase, supported by a multilateral framework and multilateral agreements, so that it can effectively support efforts aimed at implementing the 2030 Agenda.

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ACRONYMS

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
CAREC	Central Asia Regional Economic Cooperation
ESCAP	United Nations, Economic and Social Commission for Asia and the Pacific
EAEU	Eurasian Economic Union
EU	European Union
FDI	foreign direct investment
FAO	United Nations Food and Agriculture Organization
GDP	gross domestic product
GMS	Greater Mekong Subregion
ICT	Information and communications technology
IMF	International Monetary Fund
MFIs	microfinance institutions
PIF	Pacific Islands Forum
PPP	public-private partnership
RECI	regional economic cooperation and integration
OECD	Organization for Economic Cooperation and Development
SAARC	South Asian Association of Regional Cooperation
SMEs	small and medium-sized enterprises
WMO	World Meteorological Organization
WTO	World Trade Organization

CHAPTER I

WHY ASIA AND THE PACIFIC NEEDS TO ENHANCE REGIONAL ECONOMIC COOPERATION AND INTEGRATION

At the first Ministerial Conference on Regional Economic Cooperation and Integration in Asia and the Pacific, held in Bangkok from 17 to 20 December 2013, ministers, senior policymakers, representatives of members and associate members the Economic and Social Commission for Asia and the Pacific (ESCAP) adopted the Bangkok Declaration on Regional Economic Cooperation and Integration in Asia and the Pacific, which consists of four elements: (a) moving towards the formation of an integrated market; (b) development of seamless connectivity across the region; (c) enhancing financial cooperation; and (d) increasing economic cooperation to address shared vulnerabilities and risks.

Following the adoption of the Bangkok Declaration, the members of the United Nations, in 2015, adopted four landmark global agreements, namely the Sendai Framework for Disaster Risk Reduction 2015-2030, the 2030 Agenda for Sustainable Development, the Paris Agreement and the Addis Ababa Action Agenda of the Third International Conference on Financing for Development. In these comprehensive and interlinked agendas, sustainable development is promoted through the balanced integration of the economic, social and environmental dimensions, a commitment is made to leave no one behind and clear directions are set for both Member States and the United Nations entities. As such, it is important to ensure that the regional economic cooperation and integration agenda, set up under the Bangkok Declaration, is revisited and aligned in a manner that contributes to the new transformative global agendas.

At the regional level, the member States have adopted Commission resolution 73/9 in which they set up a regional road map for implementing the 2030 Agenda in Asia and the Pacific. This road map promotes the balanced integration of the three dimensions of sustainable development through regional cooperation in several priority areas with the aim to support and complement national efforts and mechanisms. The suggested areas for cooperation in the road map were chosen by member States because of their positive multisectoral impact on sustainable development. Such areas include the four areas of regional economic cooperation and integration, as identified in the Bangkok Declaration and discussed in the present report. In this sense, the regional economic cooperation and integration agenda is an integral part of the regional road map for implementing the 2030 Agenda in Asia and the Pacific.

The present chapter contains a brief discussion on the importance of enhancing regional economic cooperation and integration in Asia and the Pacific so that it will support the implementation of the 2030 Agenda. For that purpose, a consolidated and coordinated approach should be taken. In fact, in the discussion, it is argued that if regional cooperation is to drive economic and social development in a sustainable manner, regional economic cooperation and integration must be reoriented and guided by the framework of the 2030 Agenda.

1.1. The growing weight of Asia and the Pacific in the global economy

An important motivation for enhancing regional economic cooperation and integration in Asia and the Pacific is the persistent sluggish economic growth in the world's main markets – North America and the European Union – since the global financial and economic crisis of 2008. Indeed, the significance of these markets for the region has diminished considerably since the early 2000s. The combined gross domestic product (GDP) of North America and the European Union over the period 2001-2005 was more than twice as large as GDP of the ESCAP member States: 61.5 per cent of the world's GDP compared with 27.1 per cent. However, over the period 2011-2015, the share of world GDP of North America and the European Union dropped to 47.9 per cent while that of Asia and the Pacific increased to 36.1 per cent. Within Asia and the Pacific, the performance of its developing countries has been particularly remarkable. Between the periods 2001-2005 and 2011-2015, these countries almost doubled their share in world GDP, from 14.1 per cent to 26.8 percent (see table 1.1).

TABLE 1.1. Gross domestic product

Subregion	USD, billions			Percentage of world GDP		
	2001-2005	2006-2010	2011-2015	2001-2005	2006-2010	2011-2015
ESCAP member States	10,736	18,025	27,256	27.1	30.1	36.1
Developed countries	5,135	6,166	6,997	12.9	10.3	9.3
Developing countries	5,601	11,859	20,259	14.1	19.8	26.8
North America and European Union	24,395	33,213	36,219	61.5	55.5	47.9
North America	12,612	15,950	18,519	31.8	26.7	24.5
European Union	11,783	17,263	17,700	29.7	28.9	23.4
World	39,680	59,833	75,538			

Source: ESCAP based on data from United Nations Statistics Division, National Accounts Main Aggregates Database (accessed 20 February 2017).

Notes: Gross domestic product (GDP) at current prices in U.S. dollars. North America includes Canada and the United States of America. The European Union includes its 28 member States at the time of writing: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom of Great Britain and Northern Ireland.

The emergence of nationalist and protectionist sentiments in Europe and North America, as indicated, for instance, by the 2016 vote in the United Kingdom of Great Britain and Northern Ireland to leave the European Union, the withdrawal of the United States of America from the proposed Trans-Pacific Partnership in 2017 and reservations on migration aspects, is another reason for the Asia-Pacific region to enhance regional economic cooperation and integration. Market-access risks, along with other implications of an inward-looking approach that such sentiments pose for Asia-Pacific economies, provide further motivation for strengthening intraregional trade by reducing barriers to trade and investment among countries in the region.

With a combined GDP of $27.25 trillion that is growing at a significantly more rapid rate than the rest of the world, Asia and the Pacific is well on its way to becoming the largest market in the world, opening possibilities for further expansion of trade and investment within the region. Increased trade and investment help boost economic growth, create jobs, and contribute towards reducing poverty. The expansion of trade and investment within the region, however, needs to be consistent with the principle of leaving no one behind. For that purpose, such expansion should be aimed at creating opportunities for making progress in the areas mentioned above, especially for the other regional blocs, including South and Central Asia, as well as the least developed countries, landlocked developing countries and small island developing States. Furthermore, such expansion must be consistent with the Sustainable Development Goals, which were set in the 2030 Agenda, in contributing to social progress and environmental sustainability.

To advance regional economic cooperation and integration in Asia and the Pacific, several recent initiatives are helping to foster balanced and inclusive development. One of them is the China-led Belt and Road Initiative, which brings new dimensions to regional harmony and prosperity. The vision of the initiative is to foster ties between people and cultures that are anchored on increasing internal, regional and cross-continental connectivity through a multimodal network consisting of road and rail routes, improved seaports, oil and gas pipelines and regional power grids, and information and communications technology (ICT) fibre-optic links. Building seamless infrastructure would support economic diversification and lead to the dismantling of transport and trade barriers. The Belt and Road Initiative needs to be an integral part of an overall strategy and tailored to complement other endeavours in the region by also focusing on "soft" connectivity issues, such as trade and investment facilitation, trade liberalization measures including lowering non-tariff barriers, and financial cooperation to mobilize resources for sustainable infrastructure development. It should also be aligned with the 2030 Agenda, for instance, by ensuring the development of climate-friendly and resilient infrastructure projects so that these projects safeguard and nurture environmental, social and economic benefits.

1.2. Synergies between regional economic cooperation and integration and the 2030 Agenda for Sustainable Development

Traditional drivers of cooperation and integration include contiguous borders, historical roots and ties, common languages, and geography. However, these are only enabling and not determining factors for economic cooperation and integration. An important new driver is the expansion of global value chains and cross-border investment flows. When supported by appropriate national trade and commercial policies, these can provide enormous economic opportunities for countries in the region to transcend constraints to their development based on geography or small domestic markets. However, to support the implementation of the 2030 Agenda, the region needs to go beyond harnessing economic benefits. It should also pursue social and environmental goals and ensure that the benefits extend beyond limited country corridors. For both purposes, regional economic cooperation and integration should be anchored by the expansion of value chains and cross-border investment flows achieved through the dismantling of trade and transport barriers and through financial cooperation – the two most powerful steps to be taken in the effort to achieve sustainable development.

Adjustments and enhancements in regional economic cooperation and integration are critical to lift some 400 million people, almost one in ten people, out of extreme income poverty and reduce inequalities of access to health and education and other sources of deprivation, which affect one in four people. If this is not done, the potential benefits of the region's economic dynamism will not be tapped and the pervasive and overwhelming inequalities will likely worsen. Income inequality, measured by a population-weighted Gini coefficient estimated by using household income data, increased from 37 in 1990 to 48 in 2014. These inequalities are perpetuated by natural disasters. Asia and the Pacific is the most disaster-prone region in the world. Over the last 10 years, 500,000 people lost their lives and another 1.4 billion people were affected by 1,625 reported disaster events. Climate change has exacerbated the intensity and incidence of hazards in many parts of the region, threatening hard-earned development gains.

These development gaps and challenges disproportionately affect women and the most vulnerable segments of society. Central to regional cooperation and integration are inclusive growth and measures to foster social cohesion, curb unsustainable production and consumption patterns, and reverse environmental degradation.

The 2030 Agenda must therefore be mainstreamed within the regional economic cooperation and integration initiative, which in turn needs to be reoriented and guided by the sustainable development framework. It is important to ensure that these tracks are strategically reinforced by the right policy mix of means of implementation in order to mutually service sustainability and cross-border alliances.

For instance, Sustainable Development Goals 1, 5 and 10 require countries to implement policies to, respectively, end poverty, empower women, and reduce inequalities. Similar to this, Goal 8 calls for inclusive and sustainable economic growth, employment and decent work for all, and not just economic expansion through trade and investment flows and infrastructure development; Goal 9 is centred on building resilient infrastructure and promoting sustainable industrialization; and Goal 13 calls for boosting cooperation to address transboundary vulnerabilities and risks associated with climate change. These examples suggest a new direction for regional economic cooperation and integration, so that it becomes an effective enabler of the 2030 Agenda.

Regional economic cooperation and integration can also contribute to the implementation of the 2030 Agenda indirectly, provided that additional supportive policies are put in place. For instance, promoting trade and investment, supported by seamless connectivity, can lead to the creation of jobs and an increase in income. Additional income, in turn, would boost tax revenue, which can be channelled to fund social and environmental policies that are directed towards achieving the Sustainable Development Goals. In the same spirit, it is important that seamless connectivity is applied to connect least developed countries, landlocked developing countries and small island developing States with the main markets of the region. This would provide these countries with income-generation opportunities, which can contribute, if accompanied by appropriate fiscal policies, towards the attainment of the Sustainable Development Goals. To ensure that such indirect benefits of regional economic cooperation and integration effectively contribute to sustainable development, enhancing regional cooperation to support countries in implementing appropriate taxation and public expenditure policies would be very useful.

Furthermore, rethinking regional economic cooperation and integration is important in the context of a recent report of the Secretary-General, entitled "Repositioning the United Nations development system to deliver on the 2030 Agenda: ensuring a better future for all". In the report, the repositioning of the United Nations to strongly support the 2030 Agenda is cited as being critical for conflict prevention. In the 2030 Agenda, it was stressed that "sustainable development cannot be realized without peace and security; and peace and security will be at risk without sustainable development."[1] In that regard, it is important to recognize the major challenges associated with achieving durable peace and sustainable development in countries in conflict and post-conflict situations. It is thus imperative to further regional cooperation to address the special needs of such countries within the Asia-Pacific region.

To summarize, effectively pursuing the 2030 Agenda requires a fundamental evaluation of traditional regional economic cooperation and integration policies and frameworks, which tend to support economic growth only. Such conceptual transition – from the traditional "growth-centric" approach to a new approach that incorporates social and environment considerations in an integrated manner – needs to be embedded in the work of ESCAP and the cooperation initiatives it promotes. Thus, ESCAP regional economic cooperation and integration initiatives and the implementation of the 2030 Agenda should be pursued in an integrated manner to maximize coherence and coordination among policies and reforms that are required for their success.

1.3. What lessons can be drawn from existing economic cooperation and integration experiences?

The regional economic cooperation and integration approach has been pursued in Asia and the Pacific through overarching organizations and functional arrangements. Overarching organizations, such as the Association of Southeast Asian Nations, the South Asian Association for Regional Cooperation, the Eurasian Economic Union and the Pacific Islands Forum, have extensive agendas, are multipurpose, and usually cover a given geographical area. These organizations are usually intergovernmental and advisory in design, while their functional arrangements are for a specific purpose, activity or geographical area and have a much narrower focus. An example is the Regional Power Trading Coordination Committee of the Greater Mekong Subregion, which has the goal to create an integrated market for the power sector in the Greater Mekong Subregion countries.[2]

The approach taken in the Asia-Pacific region towards regional economic cooperation and integration, implemented through its many overarching organizations and functional arrangements, has been pragmatic, flexible, gradual, incremental, multitrack and multi-speed. This approach has had many advantages, including avoiding a costly and restrictive bureaucracy and respecting countries' differing needs and sensitivities. However, it has resulted in a complex web of overlapping bilateral and plurilateral agreements among the same economies, which is often referred to as the Asian "noodle bowl". The complexity of the "noodle bowl" has been compounded by the lack of coordination and consultation among various regional and subregional programmes and initiatives.

In addition, the progress of economic integration has been uneven across subregions of Asia and the Pacific. Using a composite measure of economic integration, a study finds that East Asia is the most integrated subregion (0.50) followed by South-East Asia (0.38), while Central Asia and South Asia (0.11) along with the Pacific (0.02) have the lowest levels of integration.[3] If Australia and New Zealand are included in the Pacific composite index, integration rises to 0.23 and the subregion becomes the third highest integrated subregion in Asia and the Pacific. The analysis shows that these differences in the levels of integration are primarily driven by trade and investment and by mobility of people across borders.

Variations in economic integration across the subregions reflect differences in connectivity, which is often shaped by geographical characteristics.

[1] United Nations General Assembly (2017), document A/72/124-E/2018/3. Available from http://undocs.org/A/72/124.

[2] See annex I for examples and details on overarching and functional arrangements for regional economic cooperation and integration in Asia and the Pacific.

[3] Dominik Naeher, "An empirical estimation of Asia's untapped regional integration potential using data envelopment analysis", ADB Economics Working Paper, No. 445 (Manila: Asian Development Bank, 2015). Available from www.adb.org/sites/default/files/publication/172903/ewp-445.pdf.

Given that 80 per cent of global merchandise trade is routed through sea, countries and subregions located near seaports and shipping lines disproportionately benefit from potentially higher regional economic integration. In Asia and the Pacific, East Asia is the most sea-linked subregion, while adverse geography has dragged down both regional and global integration in Central Asia and the Pacific.

In conjunction with geographical barriers and connectivity, the policies that countries implement can play an important role. For example, policies can be set to exploit favourable geographical locations or mitigate less advantageous geographical features. In this regard, East Asia and South-East Asia have the most enabling policy environment, while lacklustre pursuit of outward-oriented policies has held back South Asia from achieving significant integration outcomes.[4] Despite relatively open external economic policies, integration in Central Asia and the Pacific has been significantly hindered by geography.

To better understand how the region could most effectively enhance its efforts involving regional economic cooperation and integration, it is useful to draw lessons from the experiences of existing regional economic cooperation and integration arrangements.

First, the progress and sustainability of regional economic cooperation and integration initiatives are difficult to predict and guarantee. Subregional economic cooperation and integration initiatives in the Asia-Pacific region have progressed in different phases and waves over the last several decades, influenced by, among other factors, changing ideas and attitudes towards globalization. Implementation of trade and investment liberalization measures in several economies of the region since the 1980s has led to unprecedented economic growth and a significant reduction in extreme poverty. However, more recently, it has become increasingly evident that not everyone has enjoyed the benefits of this. Inequality has risen and is growing. Rising trade protectionism is one example of changing attitudes towards globalization and further integration, which potentially can stall or derail further progress in market integration. The lesson from this is that the goal of regional economic cooperation and integration should not be only about increasing economic growth. To sustain meaningful progress, it is important to rearticulate the benefits of economic integration and cooperation within the framework of the 2030 Agenda, and to introduce credible policy measures to address the concerns of vulnerable groups and countries.

Second, the existence of overlapping organizations has been costly in terms of political, human and financial resources. The establishment of multiple, overlapping arrangements has not only resulted in higher transaction costs for businesses, but it has also placed a heavy burden on government agencies entrusted with managing them. The diversion of scarce technical and governance resources for that purpose has been particularly problematic for small and low-income developing countries. Moving forward on regional economic cooperation and integration requires a gradual streamlining and consolidation of overlapping and inconsistent agreements related to trade, investment and transport. The overarching goal should be the establishment of a set of homogeneous regulatory frameworks that encompasses all countries in the region in these sectors. The Economic and Social Commission for Asia and the Pacific (ESCAP), as the most comprehensive regional platform for promoting cooperation for sustainable development in Asia and the Pacific, can play a useful role in supporting the attainment of this objective.

Third, lack of delegation has led to suboptimal outcomes. Governments in the Asia-Pacific region have been reluctant to delegate decision-making powers to regional or subregional intergovernmental bodies. While this approach offers some benefits in terms of autonomy and flexibility, a decision-making process built entirely on consensus is time-consuming and costly. This decision-making environment has contributed to the suboptimal proliferation of bilateral solutions mentioned above. It has also made the vision and objectives of regional economic cooperation and integration rest disproportionately on the political leadership of the participating countries. Thus, changes in political leadership have often resulted in setbacks in cooperation and integration processes as priorities have changed. To accelerate progress in regional economic cooperation and integration, and especially to rearticulate it as a key tool for the implementation of the 2030 Agenda, further reflection and discussion is

[4] Srinivasa Madhur, "Drivers and draggers of regional economic cooperation and integration in Asia and the Pacific", Bangkok, 2016. Available from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2764934.

required on how to strike the right balance between consensus-based intergovernmental processes and delegated decision-making to regional secretariats or intergovernmental bodies.

Fourth, ownership remains weak. Various regional initiatives related to regional economic cooperation and integration are often supported by facilitating institutions, such as bilateral aid programmes or international financial institutions, and considerable financial resources. This has led to dependence on external sources, which undermines local ownership. The success of regional economic cooperation and integration requires a long-term vision, strong political will and collective ownership, all of which should be backed by adequate financial resources. For that purpose, it is important that regional economic cooperation and integration initiatives are integrated into national development agendas and that they receive wide governmental support beyond specific line ministries. Furthermore, the development of successful national coalitions for regional economic cooperation and integration requires broad-based support from communities, businesses, civil society organizations, academics, and think tanks.

Fifth, regional economic cooperation and integration does not automatically bring about sustainable development. The persistent inequalities and social deprivation and environmental degradation, along with vulnerabilities to disasters and climate change, even among countries that are well-connected through trade and investment, suggest that the social and environmental pillars of sustainable development have received less priority than the economic pillar in earlier regional economic cooperation and integration initiatives. In response to the adoption of the 2030 Agenda, it is necessary to rethink how regional economic cooperation and integration initiatives should be implemented and ensure that they support progress towards achieving sustainable development. Furthermore, the principle of not leaving anyone behind ingrained in the 2030 Agenda calls for ensuring that all countries in Asia and the Pacific benefit from regional economic cooperation and integration initiatives. For that purpose, countries with special needs, such as least developed countries, landlocked developing countries and small island developing States, should receive special attention in projects that promote seamless connectivity and other regional cooperation initiatives.

The remainder of the report evaluates the progress, discusses challenges, and provides recommendations for the way forward in each of the four areas of regional economic cooperation and integration: market integration (chapter 2), seamless connectivity (chapter 3), financial cooperation (chapter 4), and shared vulnerabilities (chapter 5). Chapter 6 concludes and summarizes the main policy recommendations to enhance regional economic cooperation and integration in Asia and the Pacific.

CHAPTER II

REMOVING OBSTACLES FOR GREATER MARKET INTEGRATION IN ASIA AND THE PACIFIC

Integration is the process of reducing fragmentation in markets for goods, services, capital, labour, knowledge and information in order to lower the costs of business transactions and trade. It facilitates the cross-border mobility of factors of production, such as capital and labour, and freer movements of goods and services. These elements promote efficiency in investment flows, trade and industry, leaving less room for information asymmetries, while promoting innovation and dissemination of technologies. Under market-led mechanisms for price determination, market integration leads to price convergence for goods, services and factors of production. Free markets catalyse competition but often result in only limited price and economic convergence. This is because convergence is also, and often to a larger degree, influenced by structural (and geographical) differences, such as transport obstacles, energy deficits or other barriers that increase transaction costs. Broadly, market-led integration should be guided and enhanced by the harmonization, coordination or mutual recognition of policies, rules and regulations.

Historically, integration has been more intense among neighbouring countries. Growing capital mobility and trade, advances in technology, and reductions in transport and transaction costs have allowed for the expansion of the geographical scope of integration. In the past few decades, Asian economies have globalized to varying degrees and as a consequence are increasingly connected through trade and investment within the region and with the rest of the world. Development in Asia and the Pacific has been largely based on trade-led growth, which has strongly supported regional economies – both in terms of economic activity and job generation. As the largest trading region in the world, Asia and the Pacific accounted for 40 per cent of global exports and 35 per cent of global imports in 2016, compared to 7.8 and 7.2 per cent in 1970, respectively. The East and North-East Asia subregion has historically propelled the region's trade performance, accounting for more than 60 per cent of total Asia-Pacific trade with the rest of the world. Despite moderation in economic growth in recent years, China has remained the main force behind the dominant position of East and North-East Asia in regional trade.[5]

More in-depth regional cooperation has the potential to further increase trade and business linkages, while attracting enhanced cross-country flows of foreign direct investment (FDI). Promising prospects exist for the Belt and Road Initiative, including strengthening regional infrastructure to foster the Regional Comprehensive Economic Partnership, which has the potential to further global and regional value chains which will allow effective deployment and channelling of (surplus) savings in the region to countries with investment opportunities that offer higher returns.

While the level of market integration achieved among European Union members today is certainly beyond the scope of regional economic cooperation and integration for the Asia-Pacific region (see box 2.1), such cooperation and integration can be focused on enabling access to regional value chains so that all countries, especially those with special needs, can benefit from the region's vibrant economy. Market integration needs to be steered to support and nurture sustainable development, which has the potential to promote employment and income generation, among other benefits. Removal of trade prohibitions, increased openness and efficient borders will strengthen formal networks and reduce illegal trade and financial flows.

This chapter contains a discussion of the trends and driving factors of market integration, an identification of the main obstacles, and policy recommendations for addressing these obstacles. It also includes a discussion of market integration to promote technology transfer and innovation. The discussion is based on the analyses

[5] In 2016, China accounted for 52 per cent of the exports and 47 per cent of the imports in the subregion.

and recommendations of the Working Group on the Formation of an Integrated Market in Asia and the Pacific, which met in Bangkok in December 2014 and March 2015. It also contains a discussion of the outcomes of the deliberations of ESCAP at its seventy-second session, in May 2016, the High-level Dialogue on Regional Economic Cooperation and Integration for Enhancing Sustainable Development in Asia and the Pacific, held in Bangkok in April 2017, and the ministerial panel discussion on regional economic cooperation and integration in support of the 2030 Agenda for Sustainable Development during the seventy-third session of the Commission, in May 2017.

BOX 2.1. In search of the ideal market integration model: the European vs. Association of Southeast Asian Nations approach[a]

Despite all the concerns leading to and in the aftermath of the referendum vote on Brexit, the European Union is still seen as the most successful regional integration initiative in the world, currently encompassing 28 economies.

To a large extent, the success of the European approach to integration can be attributed to strong political will grounded in the shared notion that market integration could help keep the peace between European nations[b] and an understanding that members would need to actively work together to converge their economies for a more homogenous region. The establishment of a well-resourced regional institutional mechanism (the European Commission) to support that work was also essential, although achieving balance between national and regional institutions remains a contentious issue.

Through the development of trade, monetary and economic relationships, the European Union has become one of the most powerful regional blocs in the world. It is now a strong economic power with significant political clout (through its common foreign and security policy) and exclusive competences (particularly on trade matters). It also has its own diplomacy with the status of observer with enhanced status at the United Nations, as well as the ability to fund large development projects within the European Union and to strengthen cooperation between the European Union and other regions.

However, achieving such a level of integration is difficult and requires parallel efforts on both political and economic fronts, as well as a step-by-step approach. The European Coal and Steel Community, an organization of six European countries set up to create a common market for coal and steel, was established in 1951 and was the forerunner of today's European Union. The same six countries signed the Treaty of Rome (1957) establishing the European Economic Community and paving the way for "a united Europe". The Treaty of Rome has been amended on a number of occasions, changing the bloc from a customs union to a common market and finally to an economic and a monetary union with expanded membership. Today, the treaty is known as the Treaty on the Functioning of the European Union.

This market integration went through several phases. Between 1957 and 1990, the main achievement of the European Economic Community was getting member countries to adopt a common policy on trade. After removing tariffs and quotas and establishing common customs tariffs, the members agreed to give the European Commission an exclusive competence to harmonize their tariffs with the rest of the world (1968). European countries also decided to standardize their norms and establish common policies on agriculture (Common Agricultural Policy, introduced in 1962) and transport. In order to implement a common currency, most nations of the European Economic Community decided to create the European Monetary System in 1979 to prevent fluctuations between European currencies.

Between 1990 and 2002, the member countries tried to deepen economic integration through the Economic and Monetary Union. In 1990, members decided to liberalize capital flows in the European Economic Community and established some convergence criteria on inflation, debt, deficits and interest rates for countries that wanted to adopt the common currency, the euro. In 1997, the Stability and Growth Pact on budgetary discipline was adopted, and in 1998, the conversion rates between European currencies and the euro were set. Finally, a single monetary policy and a non-physical form of the euro were introduced in 1999, before the entry into circulation of the euro on 1 January 2002.

Similar to the European integration, the Association of Southeast Asian Nations (ASEAN) was established in 1967 by five South-East Asian countries motivated by political factors. However, since the initiation of the ASEAN Free Trade Area in 1992, the economic aspects of integration have been the main motivators. By 1999, the bloc included 10 countries, which today comprise 629 million people and a gross domestic product of $2.4 trillion, making it the seventh largest market in the world. In contrast to the European integration, there has been no delegation of authority from national Governments to the ASEAN secretariat, and even in the area of trade, there has been no formation of a customs union or a common trade policy. Nevertheless, ASEAN also followed a community-building approach by opting to build three communities – economic, political-security and sociocultural – to move integration forward. The ASEAN Economic Community was supposed to be fully implemented by 2015 with its 10 members sharing a single market and production base that was highly competitive but had the goals of equitable economic development and of the region being fully integrated into the global economy. Building on the achievements of the ASEAN Economic Community, members envisioned a post-2015 ASEAN (known as the ASEAN Economic Community Blueprint 2025) with deepened economic integration and strengthened political cohesion and social responsibility. Under the Blueprint, the institutions necessary to move integration forward will be strengthened. It remains to be seen if it will bring ASEAN closer to the European model or if the latter will transform into a more ASEAN-like model

[a] www.ec.europa.eu/; www.touteleurope.eu/; and Bruno Jetin and Mia Mikic, eds., *ASEAN Economic Community: A Model for Asia-wide Regional Integration?* (New York, Palgrave-Macmillan, 2016). Available from www.palgrave.com/gp/book/9781137537102.

[b] The process of European integration early on included a proposal to establish a European defence community (1950) which failed. It was only in 1955 at the Messina Conference that the six European leaders were able to return to the idea of integration and unity by focusing on economic integration, which resulted in the Treaty of Rome, as well as the treaty establishing the European Atomic Energy Community (EURATOM Treaty).

2.1. Liberalizing and facilitating trade for market integration for goods and services

The increasing dynamism of developing countries in the Asia-Pacific region, combined with the integration of the region's economies into global value chains, is the driving force behind the growing importance of the region in international trade. Factors such as relatively low wages and the availability of a large and diverse labour force in the region, ample investment resources and advanced technological capabilities have supported integration of the Asia-Pacific region into global value chains. In addition, lower trade barriers and improved transport and information and communications technology connectivity have reinforced this trend and enabled the creation of the regional value chains and production networks.

The participation of the economies in the region in global value chains and regional production networks has boosted intraregional trade, which now represents more than half of the region's total trade. However, the intensity of intraregional trade varies across subregions, with the highest levels in South-East Asia and the Pacific (which includes Australia and New Zealand) (see table 2.1). The high intraregional trade intensity of South-East Asian economies reflects their participation in regional value chains and the benefits of the Association of Southeast Asian Nations (ASEAN).[6] In contrast, given their geographical characteristics, economies in the Pacific are interconnected through Australia and New Zealand and depend heavily on their preferential access to those markets. East and North-East Asia is the most important subregional trading partner for

[6] As shown in *Asia-Pacific Trade and Investment Report 2015: Supporting Participation in Value Chains* (United Nations publication, Sales No. E.15.II.F.15), pp.114-115, global value chain-related production in Asia relies heavily on intraregional intermediate imports. In 2013, more than 65 per cent of the global value chains' intermediate imports of regional economies came from within the region. This link was particularly strong for the apparel, footwear and electronics sectors and moderate for the automotive and processed agriculture sectors. Member States of ASEAN (Indonesia, Malaysia, Singapore and Thailand) are among those exhibiting the positive association between intraregional trade and global value chain participation. The regional nature of global value chains has also been confirmed in other literature, for example, Richard Baldwin, "Global supply chains: why they emerged, why they matter, and where they are going" in *Global Value Chains in a Changing World*, Deborah. K. Elms and Patrick Low, eds. (Geneva, World Trade Organization, 2013), pp. 13-60 (available from www.wto.org/english/res_e/booksp_e/aid4tradeglobalvalue13_e.pdf) and Koen de Backer and Norihiko Yamano, "International comparative evidence on global value chains", OECD Science, Technology and Industry Working Paper, No. 2012/3 (DSTI/DOC(2012)3) (Paris, 2012), (available from www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/DOC (2012)3&docLanguage=En.).

the other subregions of Asia and the Pacific, mainly because of the prominence of China. South-East Asia is the second most important source of imports for the other subregions, except for North and Central Asia. In South and South-West Asia and North and Central Asia, there is limited intrasubregional trade, mainly owing to limited complementarity of exports and relatively high trade costs.

The Asia-Pacific economies have become important exporters of global value chain products, whereas final demand for such products still largely comes from North America and Europe. However, the slow recovery in demand for such products in these developed markets has recently led to unprecedented weak trade growth for the Asian and Pacific economies. To offset this trend, these economies must develop alternative sources of growth by, for example, boosting domestic and regional demand. However, this is challenging for economically small countries and countries lacking large budgets to step-up government spending.

With regard to trade in commercial services, it should be noted that although the region remains a net importer, its share in global services trade continues to grow, with its share in global imports increasing from 29.5 per cent to just below 33.0 per cent, and global exports increasing from 25.5 to 30.0 per cent from 2005 to 2015. Commercial services trade is largely supported by communications, construction, insurance, financial services, computer and information, royalties and licence fees, and cultural and recreational services. Transportation and travel follow with closely competing shares. While East and North-East Asia and South-East Asia are the major contributors in the region to services trade, the share of South and South-West Asia is growing rapidly. At the country level, China, India, Japan and Singapore account for more than half of the services trade in the region.

Regulatory obstacles can strongly affect services trade, which plays a key role in facilitating industrial and agricultural trade and countries' participation in value chains. While economies in the region have increased their participation in global services trade, it seems, based on the incomplete data that are available, that intraregional trade in services still lags intraregional trade in goods.

Regional and global trade patterns are strongly influenced by trade costs. Such costs include import tariffs, non-tariff or behind-the-border barriers, regulatory and procedural border burdens, and transport costs. Non-tariff measures are believed to pose a greater impediment to trade and be the cause of higher trade costs than tariffs – the traditional barriers to trade – in many sectors. The agricultural and food sectors are most notably affected by such measures. This is particularly disadvantageous for developing countries, which typically have comparative advantages in those sectors. Even small additional costs arising from import barriers, such as non-tariff measures, can harm the competitiveness of countries and their ability to participate in global value chains.

However, measuring the exact magnitude of the impact of non-tariff measures on trade is highly complex, as these measures are heterogeneous and are often presented as a package of measures rather than a single measure, making cost comparison difficult. While it is critical that efforts are made to deal with non-tariff measure-based protectionism, more emphasis must be applied to improving the availability of data on the impact and prevalence of non-tariff measures.

Nevertheless, the ESCAP-World Bank Trade Cost Database attempts to capture some of these broader issues, offering aggregate measures of trade costs. It points to a high variation of trade costs among Asia and the Pacific countries and subregions, with tariff-equivalent costs ranging from 51 per cent to as much as 369 per cent (table 2.2), which makes trade integration opportunities very uneven. As the table indicates, East and North-East Asian economies typically have the lowest trade costs in the region, while the Pacific island developing economies have the highest overall costs because of geographical constraints. Similarly, trade costs of North and Central Asian economies are about three times higher than those of a sample of representative East Asian economies, despite significant progress made in reducing trade costs since 1996.

Several steps have been taken and policies have been formulated to reduce trade costs, with the Asian and Pacific economies increasingly using bilateral and plurilateral preferential trade agreements over the past two decades. As of June 2017, the Asian and Pacific economies were involved in 170, or 66 per cent, of the total 274 preferential trade agreements in force globally at that time.

TABLE 2.1. Intraregional trade in Asia and the Pacific

Subregion	Intraregional merchandise imports (percentage)		Intraregional merchandise exports (percentage)	
	Of GDP	Of total imports	Of GDP	Of total exports
East and North-East Asia				
1990	6.7	50.3	6.1	42.3
2000	7.9	53.8	7.3	44.3
2015	9.6	58.4	11.9	55.5
North and Central Asia				
1990	2.3	21.4	3.3	22.1
2000	4.4	30.3	8	21
2015	7.9	48.9	8.9	36.5
Pacific				
1990	5.8	41.7	7.4	54.4
2000	8.7	48.4	10.3	60.6
2015	11.6	62.2	12.5	75.4
South and South-West Asia				
1990	3.6	33.3	2.4	29.5
2000	4.8	31.9	2.9	23.8
2015	9.7	44.3	4.2	29.5
South-East Asia				
1990	28.7	60.8	27.3	65.6
2000	37.1	61.7	41.5	59.6
2015	34.6	72.6	32.9	68.6

Source: ESCAP, *Asia-Pacific Trade and Investment Report 2016: Recent Trends and Developments,* Sales No. E.16.II.F.23 and International Monetary Fund (IMF), IMF Data: Government Finance Statistics. Available from www.imf.org/external/pubs/ft/gfs/manual/gfs.htm (accessed 10 April 2017).

Note: Intraregional is defined as imports or exports flows from or to the Asia-Pacific region.

TABLE 2.2. Estimates of tariff-equivalent costs of trade in Asia and the Pacific (percentage)

Region	ASEAN-4	East Asia-3	North and Central Asia	Pacific Islands	SAARC-4	AUS_NZL	EU-3
ASEAN-4	**76**						
East Asia-3	75	**51**					
North and Central Asia	354	175	**121**				
Pacific Islands	172	175	369	**132**			
SAARC-4	128	124	285	318	**116**		
AUS_NZL	101	88	336	83	138	**52**	
EU-3	106	85	152	209	115	108	**43**
USA	86	63	177	163	110	100	67

Source: ESCAP-World Bank Trade Cost Database. Available from www.artnet.unESCAP.org/databases.html#first (accessed 12 May 2016).

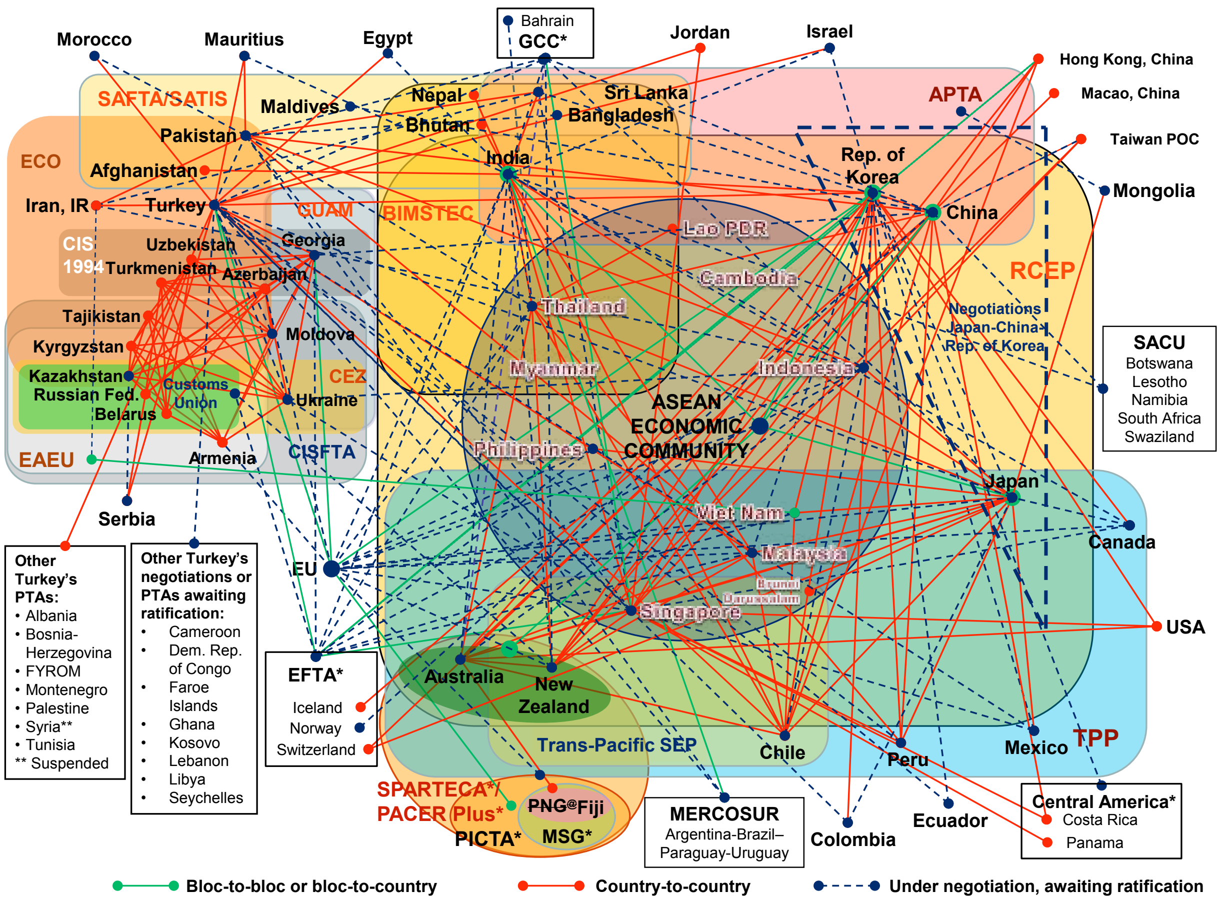
Notes: ASEAN-4: Indonesia, Malaysia, the Philippines and Thailand; AUS-NLZ: Australia and New Zealand; East Asia-3: China, Japan and the Republic of Korea; EU-3: Germany, France and the United Kingdom of Great Britain and Northern Ireland; Pacific islands: Fiji and Papua New Guinea; North and Central Asia-4: Georgia, Kazakhstan, Kyrgyzstan and the Russian Federation; SAARC-4: Bangladesh, India, Pakistan and Sri Lanka; USA: United States of America.

Trade costs shown are tariff equivalents calculated as trade-weighted average trade costs of countries in each subregion with the three largest developed economies (Germany, Japan and the United States of America).

Overreliance on preferential trade agreements has led to a multiplicity of overlapping preferential trade agreements, which is often referred to as Asia's noodle bowl (figure 2.1). While each individual agreement on its own may be reducing tariffs with the objective of improving market access for its partners, the large number of overlapping and multiple agreements associated with different trade rules may end up increasing transaction costs for businesses, especially for small and medium-sized enterprises. Hence, consolidation of preferential trade agreements to reduce their number and complexity would be beneficial for private sector entities engaging in international commerce.

As high trade costs act as an obstacle to trade expansion, Governments in the region are increasingly considering trade facilitation and paperless trade measures to complement and strengthen access to markets opened through preferential trade agreement-driven trade liberalization. Region-wide implementation of cross-border paperless trade measures could bring export gains of as much as $257 billion annually, reduce the time required to export by 44 per cent and cut trade costs by 31 per cent.[7] Similarly, the full implementation of the World Trade Organization (WTO) Agreement on Trade Facilitation, which came into force on 22 February 2017, could reduce trade costs in the region by up to 17 per cent. Nevertheless, as figure I shows, significant progress in the implementation of the Agreement and of electronic trade document exchange mechanisms has only been made in East and North-East Asia and South-East Asia, with the other subregions considerably lagging.

FIGURE 2.1. Asia-Pacific noodle bowl

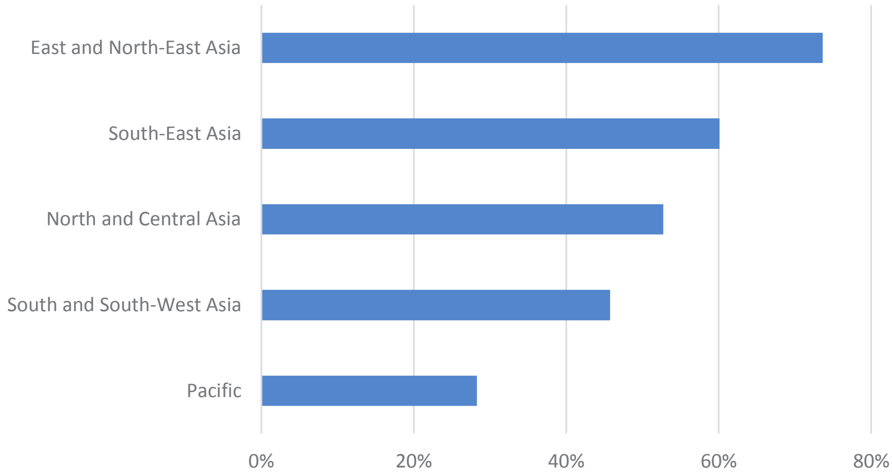


Source: *Asia-Pacific Trade and Investment Report 2016: Recent Trends and Developments*. (United Nations publication, Sales No. E.16.II.F.23).

Note: The United States withdrew from the Trans-Pacific Partnership in January 2017.

[7] *Asia-Pacific Trade and Investment Report 2015: Supporting Participation in Value Chains* (United Nations publication, Sales No. E.15.II.F.15).

FIGURE 2.2. Implementation of trade facilitation and paperless trade measures



Source: ESCAP, *Trade Facilitation and Paperless Trade Implementation 2017: Asia and the Pacific Report* (forthcoming).

Recognizing this, ESCAP has supported the development of the Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific with the objective of providing the region with a new tool and a digital complement for better implementation of the WTO Agreement on Trade Facilitation and paperless trade provisions already featured in many bilateral trade agreements.[8] Open for signature since October 2016, the Framework Agreement also supports the development of cross-border e-commerce and builds upon existing international standards and bilateral and subregional initiatives.

While the region has witnessed a proliferation of preferential trade agreements, Asia-Pacific countries have also been involved in negotiating economic or comprehensive partnership agreements, such as the Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership, which include commitments to liberalize investment, competition policy and/or government procurement. These types of mega-regional agreements have great potential for harmonizing countries' different standards[9] and procedures and for consolidating multiple overlapping rules of origin under existing trade agreements. They also expose the complexities of plurilateralism, which does not necessarily provide the best avenue to meet the development goals that small developing economies would like to achieve through trade.

In summary, trade of goods and, to a certain degree, of commercial services has contributed greatly to growth in the Asia-Pacific region through access to global value chains, which has significantly supported intraregional trade. The risk is, however, that the proliferation of trade agreements with complex trade rules may not be enabling trade and investment flows, as discussed in the next section. Similarly, renewed protectionist measures can prevent the most vulnerable countries in the region from benefiting from the opportunity of boosting their economies on the back of trade. To tackle these risks, efforts may be directed to further facilitating trade by, for example, instituting paperless trade and consolidating existing trade agreements. This will be of particular importance to countries with special needs (see box 2.2).

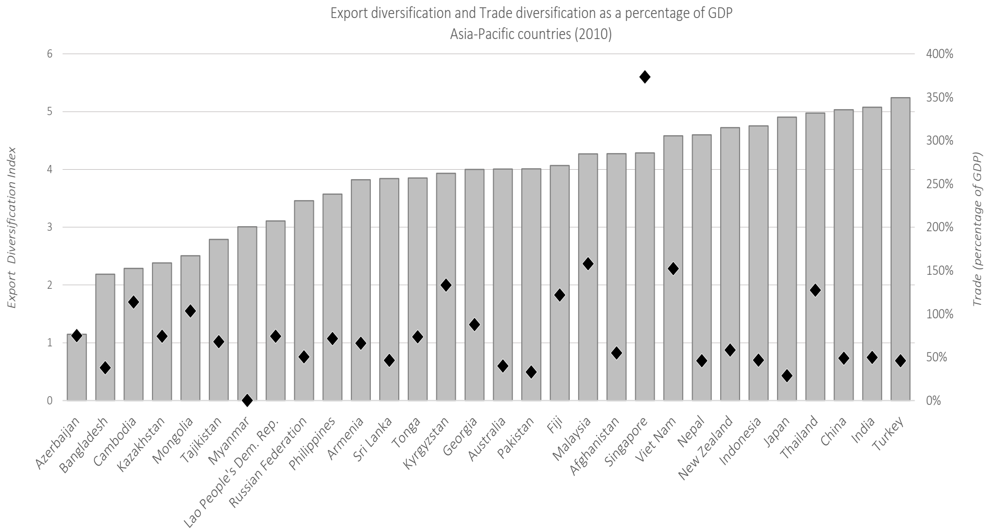
[8] Yaan Duval and Kong Mengjing, "Digital trade facilitation: paperless trade in regional trade agreements", ADBI Working Paper Series, No. 747 (Tokyo, Asian Development Bank Institute, 2017). Available from www.adb.org/publications/digital-trade-facilitation-paperless-trade-regional-trade-agreements.

[9] Industry-led voluntary standards to better align value chains with sustainable development, including through higher levels of competitivity, will also play an important role.

BOX 2.2. Export diversification and market integration[a]

There is strong evidence that trade facilitation and the resulting increased market integration can help countries in diversifying exports[b], which has been identified as especially important in the early stages of the development process, as shown by the example of the so-called East-Asian Tigers[c]. This makes trade facilitation even more important to some of the least developed and landlocked countries of the region, which have been struggling to diversify their exports.

As shown in the graph below, based on data for half of the Asia-Pacific economies, some of the least diversified economies in the region are Azerbaijan, Bangladesh, Cambodia, Kazakhstan and Mongolia.



In that context, Asia-Pacific countries with special needs should continuously explore new products and markets and formulate policies that assist in expanding their participation and increasing technological content in regional and global value chains. In order to diversify markets and products, Asia-Pacific countries with special needs need to explore intraregional initiatives through regional trade agreements. Regional trade agreements can be an important tool for market diversification as they can be used to promote trade in goods by dismantling tariff and non-tariff barriers, attracting investments, promoting trade in services and reducing trade transaction costs through trade facilitation measures. This would also assist in reducing supply-side constraints, which would ensure the development of regional value chains and promote intraregional investment and technology flows.

Beyond trade policy and market integration, however, countries will also need to holistically work on a number of related areas to enhance their productive capacities, including the development of industrial policies, fiscal policies and infrastructure.

[a] IMF, The Diversification Toolkit: Export Diversification and Quality Databases, Spring, 2014 (available from www.imf.org/external/np/res/dfidimf/diversification.htm); IMF, "Sustaining long-run growth and macroeconomic stability in low-income countries: the role of structural transformation and diversification", IMF Policy Paper (March 2014); and Asia-Pacific Countries with Special Needs Development Report 2015: Building Productive Capacities to Overcome Structural Challenges (United Nations publication, Sales No. E.15.II.F.9).

[b] For example, see Ben Shepherd, "Enhancing export diversification through trade facilitation", ARTNeT Policy Brief, No. 19 (Bangkok, ESCAP, 2009) (available from www.unescap.org/sites/default/files/polbrief19.pdf); Allen Dennis and Ben Shepherd, "Trade facilitation and export diversification", The World Economy, vol. 34, No. 1 (January 2011), pp. 101-122 (available from www.onlinelibrary.wiley.com/doi/10.1111/twec.2011.34.issue-1/issuetoc); and Cosimo Beverelli, Simon Neumueller and Robert Teh, "Export diversification effects of the WTO Trade Facilitation Agreement", FIW Working Paper, No. 137 (Vienna, FIW, 2015) (available from www.fiw.ac.at/fileadmin/Documents/Publikationen/Working_Paper/N_137_BeverelliNeumuellerTeh.pdf).

[c] IMF, The Diversification Toolkit: Export Diversification and Quality Databases, Spring, 2014 (available from www.imf.org/external/np/res/dfidimf/diversification.htm) and IMF, "Sustaining long-run growth and macroeconomic stability in low-income countries: the role of structural transformation and diversification", IMF Policy Paper (March 2014).

2.2. Foreign direct investment and regional investment regimes

The Asia-Pacific region has become a major destination and source of investment flows, which has served to further boost regional integration. Inflows and outflows of FDI from and to the region have steadily increased, despite some dips emanating from global shocks (figure 2.3). In 2016, the region received 31 per cent, or $541 billion, of the total global FDI inflows and was responsible for 34 per cent, or $495 billion, of global FDI outflows. Within the region, East and North-East Asia has been the major source of both inward and outward FDI growth.

Two patterns can be identified about the composition of FDI in recent years. First, the region experienced a significant increase in greenfield FDI inflows to high value-added industries in the manufacturing and service sectors over the past decade, although the size of these inflows was small. The sectors in which the inflows were directed included alternative/renewable energy, communications, business services, health care and biotechnology, although the size of these FDI inflows remained small. These industries have also received much more stable greenfield FDI inflows when compared with top industries, such as coal/oil/natural gas, real estate, metals and financial services.

Second, South-South FDI flows have increased considerably in recent years. They have tended to be directed to the immediate geographic region of the source country.[10] The share of intraregional greenfield FDI inflows of total greenfield FDI inflows to the Asia-Pacific region has continuously increased, accounting for 48 per cent in 2016. China has become the biggest intraregional investor in the region, followed by Japan and the Republic of Korea, each respectively accounting for 24, 18 and 12 per cent of intraregional greenfield FDI investments for the period 2014-2016, while China and ASEAN have become the most attractive destinations for intraregional greenfield FDI (figure 2.4).

Despite steady and strong FDI growth in the Asia-Pacific region since 2000, many direct and indirect obstacles still hinder increased intraregional FDI and regional integration. Among these challenges are multiple and overlapping international investment agreements, poor business environments and barriers to trade.

Because there is no global governance mechanism, such as a coherent multilateral investment framework, investment promotion and protection have been undertaken primarily through international investment agreements, either in the form of bilateral or subregional investment treaties or as investment chapters in bilateral or regional trade agreements.[11] As in trade, the proliferation of international investment agreements in recent years has resulted in overlapping and duplication among the treaties in a number of areas. Thus, there is a need to consolidate and streamline these agreements to improve transparency and clarity of international investment rules and thereby help to boost regional integration.

South-East Asia is the only subregion with a subregional-level investment agreement, the ASEAN Comprehensive Investment Agreement. However, even under the Agreement, individual ASEAN members continue to maintain national investment laws and bilateral investment treaties with each other and with external partners. Consequently, by adding to existing treaty layers, the Agreement could lead to an even more complex network of international obligations.[12]

Attempts to establish common investment regimes in other subregions, such as in South Asia through the South Asian Association for Regional Cooperation and in Central Asia through the Eurasian Economic Union, are ongoing but face political obstacles. As FDI involves the presence of foreigners who own local assets and operate in local markets in direct competition with domestic companies, policies to promote and attract FDI are often politically sensitive and face opposition, leading to backtracking or the delay of much-needed economic reforms.[13]

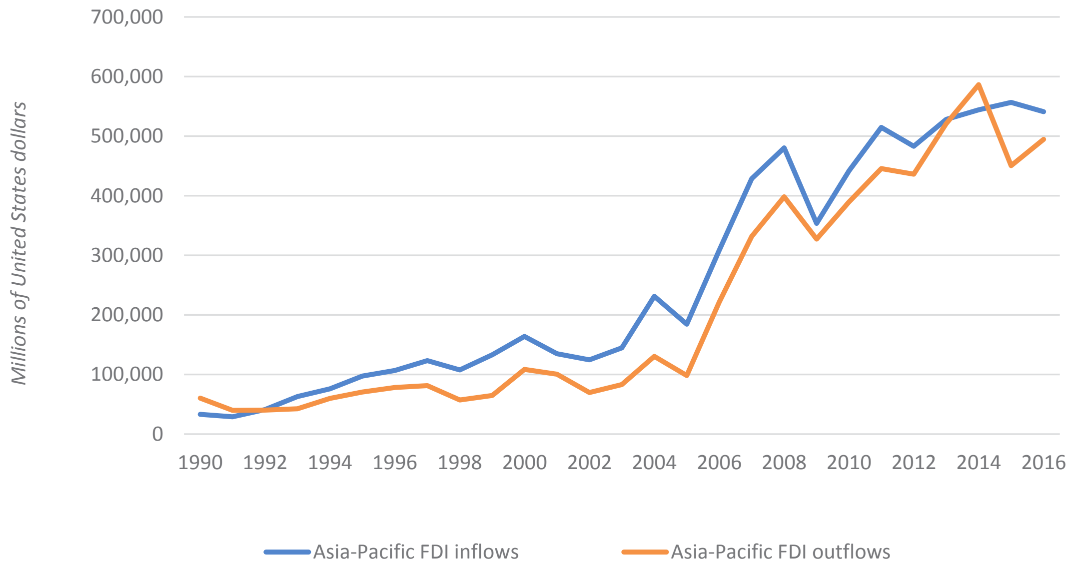
[10] United Nations Conference on Trade and Development, *World Investment Report 2015: Reforming International Investment Governance (United Nations publication,* Sales No. E.15.II.D.5). Available from www.unctad.org/en/PublicationsLibrary/wir2015_en.pdf.

[11] At the global level, 2,324 bilateral investment treaties and 297 treaties with investment provisions were in force as of January 2017. The corresponding figures for Asia and the Pacific are 968 bilateral investment treaties and 148 treaties with investment provisions.

[12] Organization for Economic Cooperation and Development, "Southeast Asia Investment Policy Perspectives", 2014. Available from www.oecd.org/daf/inv/investment-policy/Southeast-Asia-Investment-Policy-Perspectives-2014.pdf.

[13] Bernard Hoekman and Kamal Saggi "Multilateral disciplines and national investment policies" in *Development, Trade and the WTO: A Handbook*, Bernard Hoekman, Aaditya Mattoo and Philip English, eds. (World Bank, Washington, D.C., 2002). Available from www.documents.worldbank.org/curated/en/805981468763835259/pdf/297990018213149971x.pdf.

FIGURE 2.3. Foreign direct investment inflows and outflows to and from the Asia-Pacific region, 1990-2016



Source: ESCAP calculations based on United Nations Conference on Trade and Development, *World Investment Report 2017: Investment and the Digital Economy* (United Nations publications, Sales No. E.17.II.D.3).

The lack of an effective investment and business climate in many economies of the region has also hindered intraregional FDI.[14] Although improvements have been made in most countries in terms of FDI liberalization, a number of obstacles remain, including excessive red tape; lack of effective investment facilitation and aftercare, in particular at the local government level; lack of required labour skills, infrastructure and technological capabilities for more advanced forms of FDI; and corruption and other obstacles related to ineffective law enforcement.[15,16] This explains why many investor home countries seek international investment agreements with host countries that emphasize investor protection. Recently, however, calls have grown for more balanced international investment agreements that also recognize host country development needs and the right of Governments to regulate for development purposes.[17] Where such investments impact natural-resource dependent livelihoods and land tenure security, the needs and concerns of local communities, in particular indigenous populations, also require attention.

Finally, FDI is linked to the establishment and development of global and regional value chains, which have been instrumental in enhancing market integration in the region, particularly in East Asia and South-East Asia.[18] Thus, obstacles to effective cross-border trade, including the lack of effective trade facilitation, are also obstacles to FDI.

[14] Agnès Bénassy-Quéré, Maylis Coupet and Thierry Mayer, "Institutional determinants of foreign direct investment", *The World Economy*, vol. 30, No. 5 (May 2007), pp. 764-782. Available from www.onlinelibrary.wiley.com/doi/10.1111/j.1467-9701.2007.01022.x/abstract.

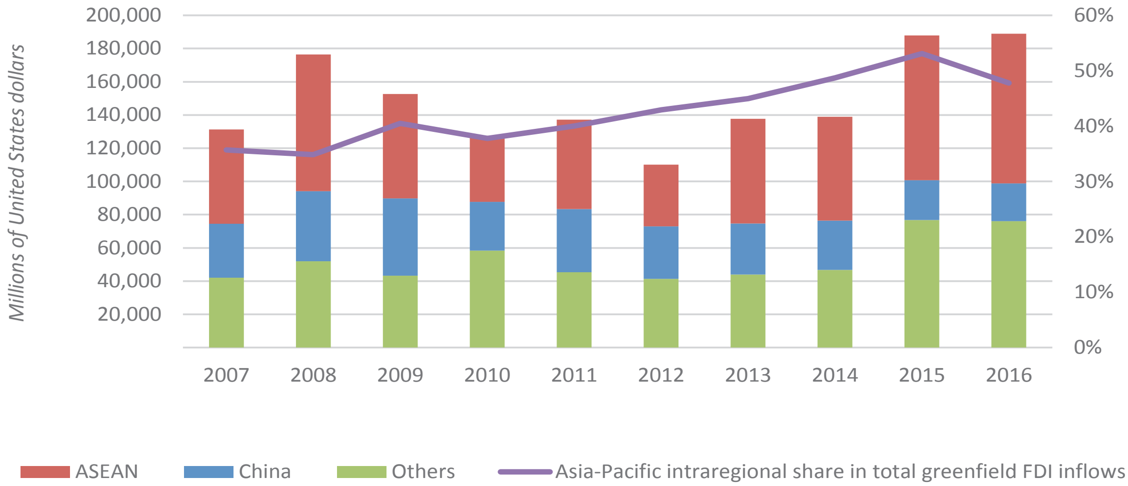
[15] Aftercare refers to government support to, for example, retain investment and ensure it has a local economic impact. See United Nations Conference on Trade and Development, "Aftercare: a core function in investment promotion", Investment Advisory Series, series A, No. 1 (Geneva, 2017).

[16] There are numerous studies on the obstacles to FDI. One relevant example is Zdenek Drabek and Warren Payne, "The impact of transparency on foreign direct investment", *Journal of Economic Integration*, vol. 17, No. 4 (December 2002).

[17] ESCAP, *Creating Business and Social Value: the Asian Way to Integrate CSR into Business Strategies*, Studies in Trade and Investment, No. 68 (ST/ESCAP/2565).

[18] See World Trade Organization and Institute of Developing Economies-Japan External Trade Organization, *Trade Patterns and Global Value Chains in East Asia: From Trade in Goods to Trade in Tasks* (Geneva, 2011).

FIGURE 2.4. Intraregional greenfield foreign direct investment inflows in the Asia-Pacific region and their share in total greenfield foreign direct investment inflows, and major destinations, 2007-2016



Source: ESCAP calculations, based on Financial Times Ltd., fDi Markets. Available from www.fdimarkets.com (accessed 15 February 2017).

2.3. Cross-border mobility of labour

Labour market integration remains much lower than levels of integration for intraregional trade and investment. The region has a large population of migrants from labour-surplus countries, most of whom find jobs in construction and domestic work. Of the estimated 231.5 million migrants in the world in 2013, about 59.3 million were in countries in the Asia-Pacific region (25.6 per cent). This represents a notable increase of 7 million (11.8 per cent) from the comparable figure in 1990 (figure 2.5).

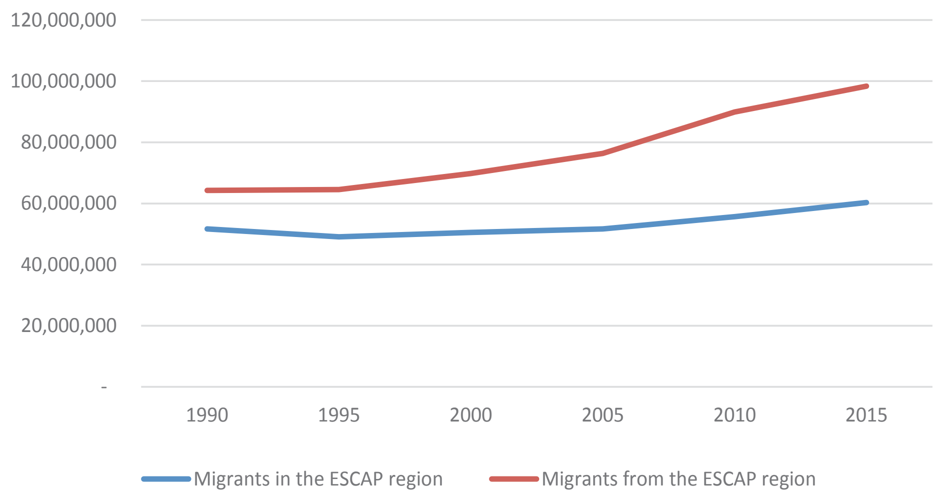
Major countries involved in the migration of labour are Australia, Brunei Darussalam, China, India, the Islamic Republic of Iran, Japan, Kazakhstan, Malaysia, Pakistan, the Republic of Korea, the Russian Federation, Singapore and Thailand, some of which have experienced important structural transformations over the previous few decades (figure 2.6). For instance, the foreign worker population in Singapore rose from 21,000 in 1970 (3 per cent of the workforce) to more than one million (35 per cent) in 2010.

Remittances have been the main benefit of labour migration, as they provide much-needed resources for origin countries to finance current account deficits, smooth households' consumption, alleviate poverty and catalyse investment in small and medium-sized enterprises. Asia and the Pacific hosts some of the most important remittance corridors in the world, from the Russian Federation to Central Asian countries, from Australia and New Zealand to their Pacific neighbours, and from Thailand to other South-East Asian countries. Similarly, several economies in the region, such as Bangladesh, India, Pakistan and the Philippines, receive large remittances through the migration of members of their labour force, mostly low-skilled workers, to countries in the Middle East, such as Saudi Arabia and the United Arab Emirates.

International migration has the potential to yield a net benefit to migrants and their families, as well as to countries of origin and destination countries. However, harnessing these benefits requires concerted efforts and cooperation initiatives among and between countries in the Asia-Pacific region aimed at addressing political, technical and socially embedded perceptions of migrants.

Politically, cross-border mobility of labour touches on a core aspect of state sovereignty, namely the right of states to choose who can enter or reside in their territory. Moreover, migration is often seen as a threat to a country's national security and cultural identity. For these reasons, countries are hesitant to sign international conventions on the protection

FIGURE 2.5. Evolution of migration in Asia and the Pacific, 1990-2015



Source: ESCAP, *Asia-Pacific Migration Report 2015: Migrants' Contributions to Development* (ST/ESCAP/2738).

of migrant workers and are reluctant to enter any agreement that may be interpreted as a commitment to opening their borders.

In recent years, there have been some positive policy improvements related to labour market integration. Notably, the Treaty on the Eurasian Economic Union led to the creation of a single labour market through the right to access employment and social protection systems, which rationalized and regularized long-standing labour migration flows between the countries involved.[19] Similarly, the ASEAN Economic Community has liberalized mobility of selected classes of skilled workers through mutual recognition of degrees in specific professions. Most migrants, however, have low skills, so only a small share of the migrants in ASEAN member countries have been affected by this policy. Furthermore, labour migration in ASEAN remains largely irregular, which limits the impact of this policy.

A key obstacle to migration is that the mechanisms to promote orderly migration in many countries do not favour easy matching between demand and supply of migrant labour. When vacancies for migrant labour in destination countries cannot be filled because of legal restrictions on migration, the likely outcome is irregular migration. This type of migration can occur without crossing a border illegally. Migrants may hold an irregular status because (a) they entered a country without authorization, (b) they entered legally but are staying or working without authorization, or (c) they entered a country and were authorized to work, but their employment violates regulations, such as those concerning the employer, the duration or type of work, or the hours worked.[20]

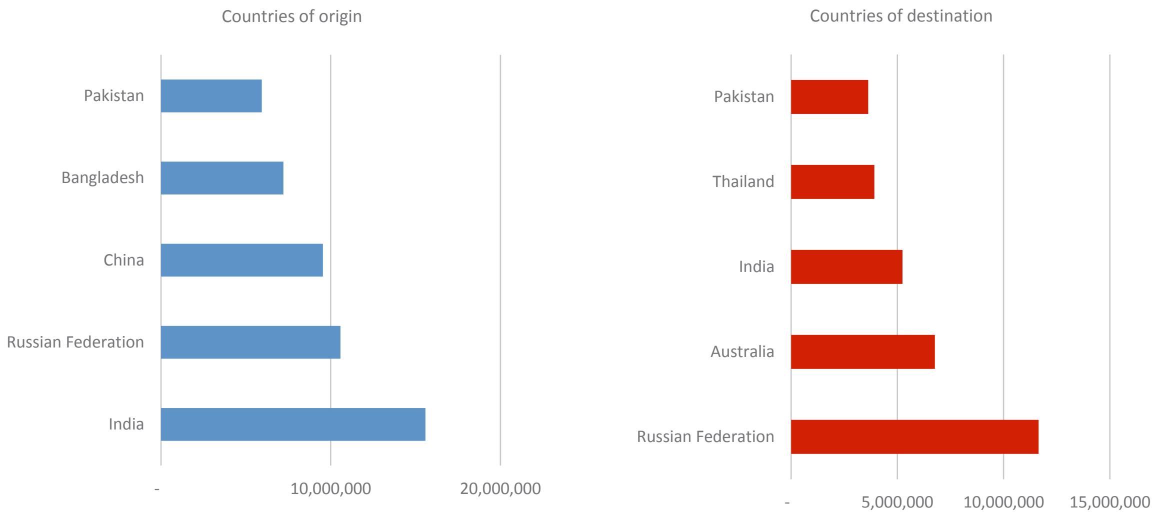
Irregular migration is problematic on several accounts, as it entails a high risk of exploitation and abuse of migrant workers, who face multiple vulnerabilities in the workplace. Thus, migrants are often not treated in the same way as local workers with regard to remuneration and labour standards.

When countries understand and allow labour migration as part of their national policies, migrant workers can be fairly treated and contribute to host country development processes, for instance by spurring technology transfer and innovation. To take advantage of such positive spillover effects, inclusive regulatory frameworks need to be in place. For example, in the Republic of Korea, the Employment Permit System ensures that migrant workers are covered under Korean Labour Law, including those pertaining to working hours and minimum wage. Migrant workers recruited under the Employment

[19] The treaty was signed on 29 May 2014 by the leaders of Belarus, Kazakhstan and the Russian Federation. It entered into force on 1 January 2015.

[20] For example, migrants from the Commonwealth of Independent States can enter the Russian Federation freely on a visa-free regime. However, they become irregular once the permitted period of legal stay expires.

FIGURE 2.6. Main countries of migration, origin and destination, 2015



Source: ESCAP, *Asia-Pacific Migration Report 2015: Migrants' Contributions to Development* (ST/ESCAP/2738).

Permit System enjoy all basic labour rights, including the right to join trade unions, freedom from forced labour, freedom to bargain collectively and non-discriminatory treatment.

In addition to the political challenges, labour market integration involves significant technical adjustments across a wide range of policy areas. For example, differences in educational systems make it difficult to certify that migrant workers have the required qualifications for specific jobs. Similarly, ensuring that migrant workers are able to pay into social protection systems and enjoy the benefits of those systems, particularly with regard to acquired rights, such as pensions, technical cooperation and agreements on such issues are required between countries that may have very different systems.

Finally, the public perception of migrants, especially low-skilled migrants, is often negative. This is typically driven by, for example, press coverage that tends to highlight issues of illegality, both about migrants' status and illegal acts carried out by migrants, and by debates that focus on the perceived negative economic effects of migration, such as migrants "taking" jobs from national workers. Even if this is not the case, and low-skilled migrants generally complement national workers and add value to national economies, negative perceptions of migrants tend to prevent Governments of key destination countries from discussing opening labour markets to migrant workers.

2.4. Market integration, technology transfer and innovation

Removing the barriers to market integration discussed above can support technology transfer and, in turn, innovation capability. Science, technology and innovation have been identified as key means of implementation to achieve the Sustainable Development Goals. In this context, the development of innovation capability will be critical if member States are to meet these ambitions.

The focus on trade and FDI as the main channels for technology transfer has historically shaped the technology policy discourse and has been an important argument in support of the removal of trade barriers and FDI incentive structures for greater market integration. This discourse assumes that by opening their economies, developing countries provide attractive new markets and a ready supply of labour in exchange for productive technologies that are expected to trigger broader technological upgrading, productivity gains and economic growth.

Trade can facilitate direct technology transfers through transactions from one party to another, such as trade in goods embodying technology or the licensing of technologies themselves.[21] There are many modalities through which FDI can generate transfers of technology, including transfers that are directly connected to FDI projects and the establishment of production facilities. Technology transfers may also happen as part of a demonstration effect, whereby domestic firms develop their innovation capability through exposure to products or productive processes of foreign firms (see figure 2.7). FDI can develop innovation capability through competition from the presence of foreign firms, which may also generate a market restructuring effect. Finally, there may also be labour turnover effects, whereby workers who acquire new skills in foreign firms leave those firms to create their own companies or join existing domestic companies, effectively transferring newly acquired human capital.

In addition to trade and FDI, labour mobility also has an impact on the development of innovation capability. Migration affects a country's ability to develop innovation capability in two ways: through the integration of foreign talent migrating into the country and through the loss of skilled workers of domestic origin. This loss of domestic talent, commonly referred to as brain drain, is particularly relevant for developing countries that may struggle to build up human capital in the first place. However, recent research has shown that an outward flow of skilled workers is not necessarily a loss for developing economies.[22] It is possible for developing countries to benefit from high-skilled migration if partnerships between sending and receiving countries encourage a repatriation of skills and knowledge, or brain circulation. Furthermore, the prospect of migration can act as an incentive to acquire skills and build up human capital, which can mean that brain drain could result in a net increase in the domestic level of human capital, or brain gain.[23] Diaspora networks can also play a crucial role in the development of innovation capability, as the large number of start-up companies created by returned Indian migrants demonstrates.

Though trade, FDI and labour mobility can support technology transfer and the development of innovation capability, government strategies should also focus on technological learning after initial transfer through policies that support indigenous innovation efforts and an institutional system conducive to innovation.[24]

In addition, to increase innovation capability, the next generation framework for technology transfer needs to be based on the principles of openness and collaboration. This is especially true considering the large disparities in innovation capability in Asia and the Pacific and the scale of the common challenges – such as climate change – facing the region. To generate and spread the next wave of breakthrough technologies, the regional innovation system needs to evolve. In many circumstances, this will not necessarily require more technology transfer, but more technology collaboration and sharing.

Getting the balance right between openness and competitiveness will be critical. Competition drives innovation and Governments need to carefully assess how a more collaborative approach could dampen the private sector's incentives. One way to increase incentives is through well-functioning intellectual property rights regimes that protect (without stifling) innovation. Another is through flexible technology-pricing regimes, which would adjust to different levels according to the market and level of development. This would allow profit-maximizing companies with an intellectual property monopoly to charge lower prices where consumers are significantly poorer. Although this concept is not new, the way it has been applied to date has provided little incentive to develop new technologies. Rethinking technology transfer as technology collaboration and sharing could be one of the most important components of the 2030 Agenda, and market integration could play a major role in reinforcing these efforts.[25]

[19] Luca Parisotto and Adam Heal, "Impacts of imported technology in Asia-Pacific developing countries: evidence from firm-level data", *Trade Insights*, No. 16 (March 2016).

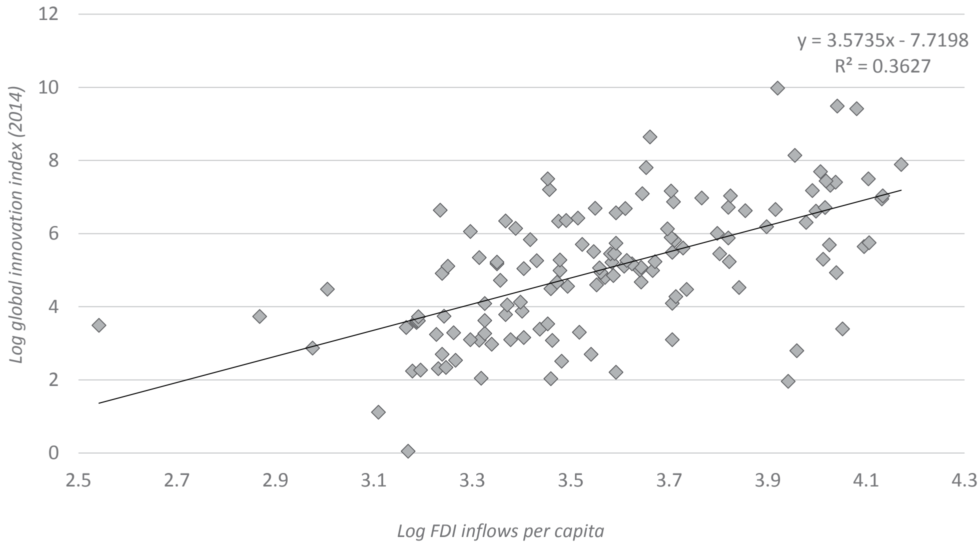
[20] Uwe Hunger, "The "brain gain" hypothesis: third-world elites in industrialized countries and socioeconomic development in their home country", Center for Comparative Immigration Studies Working Paper, No. 47 (San Diego, California, University of California-San Diego, 2002). Available from www.cctr.ust.hk/materials/library/Brain_Gain_Hypothesis_Third_worlders_in_the_West.pdf.

[21] Michel Beine, Fréderic Docquier and Hillel Rapoport, "Brain drain and human capital formation in developing countries: winners and losers", *The Economic Journal*, vol. 118, No. 528 (April 2008), pp. 631-652.

[22] Xiaolan Fu, Carlo Pietrobelli and Luc Soete, "The role of foreign technology and indigenous innovation in the emerging economies: technological change and catching-up", *World Development*, vol. 39, No. 7 (July 2011), pp. 1204–1212. Available from www.sciencedirect.com/science/journal/0305750X/39/7?sdc=1.

[23] Charles Kenny and Owen Barder, "Technology, development, and the post-2015 settlement", CGD Policy Paper, No. 063 (Washington, D.C., Center for Global Development, 2015). Available from www.cgdev.org/sites/default/files/CGD-Policy-Paper-63-Kenny-Barder-Technology-Development-Addis.pdf.

FIGURE 2.7. Correlation between the Global Innovation Index ranking and foreign direct investment inflows per capita



Source: ESCAP calculations based on Global Innovation Index 2014 (available from www.globalinnovationindex.org/analysis-indicator) and United Nations Conference on Trade and Development, UNCTADSTAT (available from www.unctadstat.unctad.org/EN/) (accessed 9 March 2016)..

2.5. Way forward

Understanding and curtailing protectionism. Improved measurements of the level of non-tariff and behind-the-border regulatory measures and assessments of their impacts are necessary to more effectively deal with what is recorded as rising trade costs, especially for smaller and vulnerable countries and traders. Current assessments estimate that the tariff equivalents of these non-tariff measures range between 50 and 350 per cent across the region's economies. To effectively deal with these obstacles to market access, ESCAP can assist countries in prioritizing areas for cooperation to better manage non-tariff measures. For example, mutual recognition agreements and conformity assessment procedures, and harmonization of standards in selected sectors, such as agriculture and processed food, green goods, textiles and certain sectors in services, such as education and health, may serve as effective instruments for broader region-wide cooperation. In this regard, work on improved measurements, impact assessments and ultimately streamlining and potentially harmonizing, where appropriate, non-tariff measures would support trade and investment liberalization for developing countries and countries with special needs.

Streamlining trade agreements. In contrast to their intention to improve market access, multiple preferential trade agreements, and the complexities arising from compliance with the rules of origin they impose for using tariff preferences, often create impediments for producers and traders. Furthermore, they can divert trade away from the economies not involved in the trade agreements. ESCAP needs to advocate for the adoption of a simpler but more development-friendly framework of rules of origin, which could be exemplified by a re-energized and expanded Asia-Pacific trade agreement.

Promoting trade facilitation and paperless trade. ESCAP has long been actively involved in the simplification of trade procedures. Following four years of consultations and negotiations, ESCAP member States adopted the Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific. The first of its kind, it is complementary to the WTO Agreement on Trade Facilitation and builds on the growing number of bilateral and subregional initiatives in this area. It has been open to all ESCAP member States since the end of 2016 and will enter into force after five member States have ratified it. The implementation of this Agreement has the potential to cut intraregional trade costs and enable countries to reap the benefits associated with cross-border paperless trade, estimated to be as high as $257 billion in increased exports opportunities.

Better utilizing existing regional platforms. Regional platforms, such as the Commission's Committee on Trade and Investment, can support countries in the region in developing cooperative solutions for trade and investment promotion, as well as in enhancing stakeholder capacities and expertise. These regional platforms should also be better utilized in building the capacity of developing countries in the region to forge alliances and voice joint actions in defence of multilateral options. Examples of possible ways of seeking cooperative solutions include fostering agreement on duty-free and quota-free rules of origin for the least developed countries in the region and lifting the absorptive capacity of least developed countries for trade, technology and investment through regional aid for trade initiatives. This would not only promote regional integration but it would serve to enhance compliance with Sustainable Development Goal 17 – the means of implementation of the 2030 Agenda – which calls for providing technical assistance and for review and monitoring, including data collection and analysis.

Supporting countries' efforts to develop regional investment regimes that would better balance investor rights with host country development needs. This would enable countries to not only attract more FDI of higher quality that contributes to sustainable development, but it would also help them to gain better market integration, which, in turn, would attract FDI, as open markets and borders are clearly an important determinant of such investments. This would consequently result in a virtuous cycle of FDI and market integration with clear development dividends. However, this requires political will. Common investment regimes should replace and not add to the existing noodle bowls of international investment agreements that mirror the noodle bowl of preferential trade agreements.

Promoting labour market integration processes aiming to enhance coverage across skill-level sectors. It is also important to target guarantees of equal pay and working conditions between migrant and domestic workers and to ensure migrant workers' access to social protection measures when they are available. To support such processes, it is important to consider ways to align regional qualification frameworks to support job matching and the creation of regional labour markets. The development of common procedures for the payment of social benefits across borders also deserves consideration.

CHAPTER III

TOWARDS REGION-WIDE SEAMLESS CONNECTIVITY IN ASIA AND THE PACIFIC

Regional connectivity in the context of the present report is defined as a network of regional infrastructure that facilitates the flow of goods, services, people and knowledge in a cost and time-effective way. It therefore plays an important role in market integration and rural-urban transitions in the region as well as in the effort to achieve the Sustainable Development Goals, both directly and indirectly. However, careful guidance is required to ensure that the potential negative impacts are minimized.[26]

Promoting seamless connectivity, comprising transport, energy and ICT connectivity, is a central pillar of regional economic cooperation and integration. Seamless connectivity across these three sectors plays an important role in enabling countries to expand their markets, optimize exchanges and strengthen collaboration in support of sustainable development and shared prosperity.

The network of regional infrastructure involved in developing seamless connectivity encompasses both soft and hard infrastructure. Soft infrastructure refers to legal, regulatory, procedural and other supporting policy frameworks, as well as human and institutional capacities, while hard infrastructure relates to physical networks, such as roads, railways, ports, undersea cables and cell phone masts, and transmission lines and power plants.

This chapter contains a discussion on the current state of transport, energy and information and communication infrastructure, including regional and subregional connectivity initiatives, along with the main challenges faced in achieving region-wide seamless connectivity. It also contains a review on national connectivity in terms of availability and quality and challenges that policymakers and the private sector face in providing regional hard and soft infrastructure, and lessons for a regional strategy for seamless connectivity encompassing transport and logistics, energy and ICT. The discussion, which is based on the analyses and recommendations of the Working Group on the Development of Seamless Connectivity, which met in Bangkok in December 2014 and March 2015, also takes into account the outcomes of deliberations at the following events: the seventy-second session of the Commission, held in May 2016; the High-level Dialogue on Regional Economic Cooperation and Integration for Enhancing Sustainable Development in Asia and the Pacific, held in Bangkok in April 2017; and a ministerial panel discussion on regional economic cooperation and integration in support of the 2030 Agenda, held in May 2017 during the seventy-third session of the Commission.

3.1. Transport connectivity

Transport connectivity is important for development because it connects individuals to opportunities, enlarges markets for goods and services and strengthens people-to-people contact. Efficient transport and logistics connectivity can play an important role in achieving sustainable development. In addition to opening up trade and service-related opportunities in underdeveloped areas, particularly those that are closer to the core areas of a neighbouring country than their own domestic core areas, integrated intermodal transport systems play an integral role in the effort to achieve many of the Sustainable Development Goals and associated targets. For instance, the realization of sustainable integrated intermodal transport connectivity will contribute directly to target 2.a, to increase investment, including through enhanced international cooperation in rural infrastructure; target 3.6, by 2020, halve the number of road traffic deaths; target 7.3, by 2030, double the rate of improvement in energy efficiency; target 9.a, facilitate sustainable and resilient infrastructure; and target 11.2, by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all. It will also contribute indirectly to Goal 1, reducing poverty,

[26] This includes the development of climate friendly infrastructure, minimizing the environmental and social disruption of infrastructure connectivity projects and mitigating risks from enhanced transport connectivity, such as the spread of infectious diseases.

and Goal 13, mitigating climate change through the use of environmentally friendly modes of transport, and support and enhance global partnerships, enabling the overall achievement of Goal 17. Physical connectivity and operational connectivity are required to achieve seamless transport connectivity that allows goods and people to travel efficiently across modes and national borders. Some of the actions required include: filling infrastructure gaps; harmonizing technical standards; synchronizing operational procedures; developing and deploying information and communications systems; and aligning cross-border legislation.

In general, investment in transport infrastructure connectivity at the national level to support regional and global production networks has increased significantly in recent decades in the Asia-Pacific region, to the extent that China, India and the Russian Federation are among the five countries with the largest rail networks in the world. Railway freight in the region has expanded from 4.3 trillion ton-kilometres to 5.8 trillion ton-kilometres during the period 1990-2012, with the largest increase being in the East and North-East Asia subregion, where it has more than doubled from 1.1 to 2.5 trillion ton-kilometres. Similarly, in line with the significant increase in the number of vehicles in the region, the overall road density has increased over the last two decades, as has the proportion of paved roads.[27]

While proxy variables, such as the density of a road network or percentage of paved roads, provide indicative information on the state of transport development, they are not sufficient for conducting assessments on, for example, the quality of road networks and the competitiveness of the transport operations. The World Economic Forum has found that while the road and rail network of India is among the largest in the world, its ranks sixty-first in terms of road quality and twenty-ninth in terms of the quality of its rail network (figure 3.1). The overall quality and quantity of national transport networks also have an important bearing on the cost of logistics. Such costs are relatively high in many countries of the region. In the United States of America, logistics costs account for 8.3 per cent of gross domestic product, as compared with 18 per cent in China and Thailand, 19 per cent in Viet Nam and 24 per cent in Indonesia. Because transport cost is a substantial part of these high logistics costs,[28] greater efforts to improve the quality of existing infrastructure would help boost the competitiveness of national economies.

At the regional level, the Asian Highway network, the Trans-Asian Railway network and the network of dry ports of international importance have laid the foundations for creating international integrated intermodal transport and logistics systems that enhance regional connectivity. The initiatives of ESCAP for the Asian Highway and the Trans-Asian Railway networks can be traced back to the late 1950s and early 1960s. With regard to the Asian Highway, to date, only 32.8 per cent of the network, which spans 142,781 km of roads passing through 32 member States, reaches the two highest categories of road class. A total of 9,176 km, or 7.3 per cent, still needs to be upgraded to meet minimum standards, and the poor quality of several segments is affecting usability. Similarly, the Trans-Asian Railway network comprises 118,000 km of railway tracks, of which 12,400 km are missing. This gap is preventing the network from being a solid basis for the development of international intermodal corridors reaching all corners of the region. While these missing links can be bridged by transhipments to trucks or by developing inland container depots and dry ports with rail connections, shippers are often resistant to using rail because of longer times and higher transhipment costs. The region has yet to realize its full potential. Governments and financing institutions need to be encouraged to increase investment in the sector.

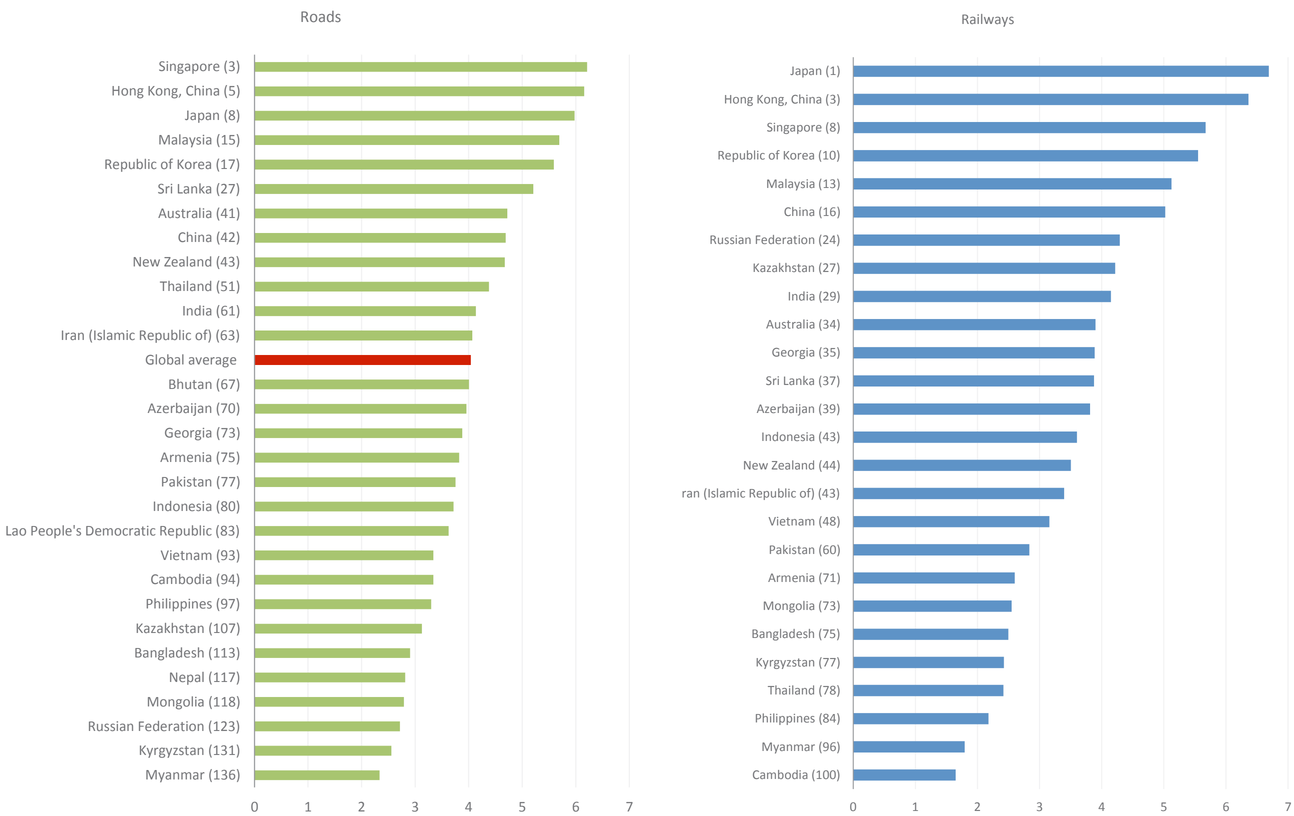
Maritime transport is another backbone of the international trading system. Nine out of the top 10 container ports are in the Asia-Pacific region, of which seven are in China. Maritime transport is especially important for the Pacific islands, as it is the mode of transport for more than 90 per cent of trade in the subregion, as well as for provision of crucial services, such as health care, employment and education, to outer island dwellers.

Within the region, numerous initiatives are directed towards realizing not just physical transport but also the operational connectivity for seamless transport connectivity. A recent one of note is the Belt and Road Initiative of China, which has the potential

[27] ESCAP Statistical database. Available from http://data.unescap.org/escap_stat (accessed 15 June 2016).

[28] For a recent study on logistics cost in Thailand, see Liu Xianghui, "The impact of logistics costs on the economic development: the case of Thailand", *Business and Public Administration Studies*, vol. 10, No. 1 (n.p., 2016). Available from www.bpastudies.org/bpastudies/article/view/204.

FIGURE 3.1. Quality of transport infrastructure in Asia and the Pacific



Source: ESCAP calculations based on World Economic Forum (2017), World Data Atlas. Available from https://knoema.com/atlas/sources/WEF.

Notes: Quality assessed on a scale from 1=poor to 7=excellent. Numbers in parentheses represent the country position in the world's ranking.

to provide impetus to regional transport connectivity. The initiative supports transport connectivity in a vast area. Its most important value is to bridge the gaps between various subregional initiatives on connectivity and support intra and interregional transport connectivity. It is hoped that the initiative will help to accelerate the connecting of the missing physical, operational, institutional and people-to-people links as promoted by ESCAP.

Transport connectivity is the theme of other initiatives in Asia and the Pacific (figure 3.2). In South and South-West Asia, examples are corridors identified under the SAARC Regional Multimodal Transport Study, the Bangladesh-China-India-Myanmar Forum for Regional Cooperation Economic Corridors and the International North-South Transport Corridor, connecting India with the Islamic Republic of Iran, Central Asian countries and the Russian Federation. Examples in South-East Asia are, in the Greater Mekong Subregion, several East-West and North-South corridors have improved connectivity, while ASEAN has included connectivity as an integral part of its strategy. The Master Plan on ASEAN Connectivity is aimed at connecting physical infrastructure, institutions and people primarily through building physical transport networks, including ports and waterways and railway links to China, but also through institutional agreements covering transport and trade facilitation, agreements on multimodal transport, single shipping and aviation markets. In the East and North-East Asia and Central Asia subregions, the Shanghai Cooperation Organization member States have signed an agreement to enhance facilitation of international road transport within its member countries, with its longest route extending from China to the Russian Federation. For the Pacific subregion, the Central Pacific Shipping Commission, an intergovernmental commission comprised of Kiribati, the Marshall Islands, Nauru and Tuvalu, was set up to promote cooperation and coordination and monitor international shipping services. It specifically addresses the challenges of irregular and costly shipping services, which hinder the smaller and more isolated islands in the Pacific to integrate their markets with neighbouring archipelagos. Also, to improve air transport connectivity, the Pacific Island countries adopted the Pacific Islands Air Services Agreement in 2003, which provides a multilateral basis for liberalizing their air services.

Despite those initiatives, challenges remain in all the subregions to provide seamless transport connectivity. There are many overlapping arrangements, including more than 400 bilateral agreements and more than 30 subregional agreements on international land transport, mostly on road transport. Unfortunately, most of these agreements provide different legal conditions and operational regimes for intercountry transport, to the extent that these agreements are resulting in increased fragmentation throughout the region. Complicating matters is that some countries in the region are contracting parties to different legal instruments covering geographically overlapping territories, and these legal instruments are often not uniform. These challenges need to be overcome to enable efficient and effective connectivity within the Asia-Pacific region.

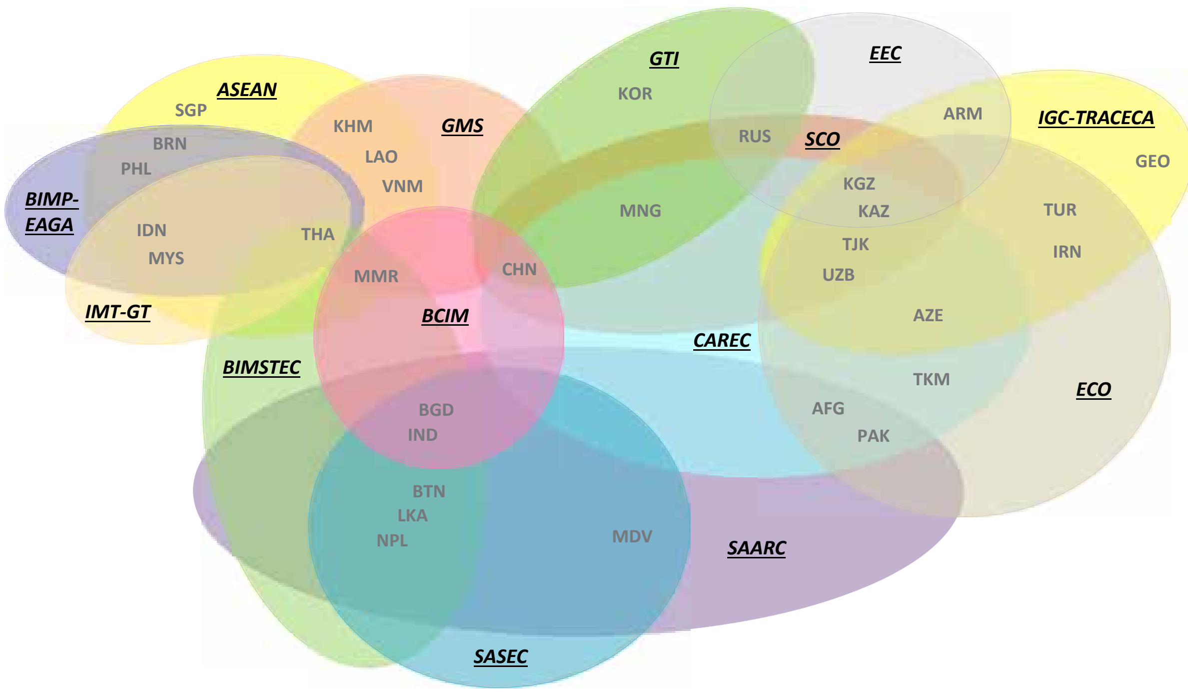
The principal challenges faced in achieving region-wide seamless transport connectivity are summarized as follows:

- Missing railway links between subregions are obstacles for the expansion of an energy-efficient and environmentally friendly mode of transport and its integration into an intermodal transport system.

- There are many substandard roads in the regional transport network, which impede intercountry movements.

- High logistics cost and costly and time-

FIGURE 3.2. Transport connectivity initiatives



Source: ESCAP.

Notes: Transport connectivity initiatives. Countries are represented by their ISO Alpha-3 code. AFG: Afghanistan, ARM: Armenia, AZE: Azerbaijan, BGD: Bangladesh, BRN: Brunei Darussalam, KHM: Cambodia, CHN: China, GEO: Georgia, IND: India, IDN: Indonesia, IRN: Islamic Republic of Iran, KAZ: Kazakhstan, KGZ: Kyrgyzstan, LAO: Lao People's Democratic Republic, MYS: Malaysia, MDV: Maldives, MNG: Mongolia, MMR: Myanmar, NPL: Nepal, PAK: Pakistan, PHL: Philippines, KOR: Republic of Korea, RUS: Russian Federation, SGP: Singapore, LKA: Sri Lanka, TJK: Tajikistan, THA: Thailand, TUR: Turkey, TKM: Turkmenistan, UZB: Uzbekistan, VNM: Viet Nam.

The following are the abbreviations for organizations; ASEAN: Association of Southeast Asian Nations; BCIM; Bangladesh-China-India-Myanmar Forum for Reginal Cooperation; BIMP-EAGA: Brunei Darussalam Indonesia Malaysia the Philippines - East ASEAN Growth Area; BIMSTEC: Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation; CAREC: Central Asia Regional Economic Cooperation Programme; ECO: Economic Cooperation Organization; EEC: Eurasian Economic Commission; GMS: Greater Mekong Subregion; GTI: Greater Tumen Initiative; IGC-TRACECA: Intergovernmental Commission Transport Corridor Europe Caucus Asia; IMT-GT: Indonesia-Malaysia-Thailand Growth Triangle; SAARC: South Asian Association for Regional Cooperation; SASEC: South Asia Subregional Economic Cooperation; SCO: Shanghai Cooperation Organization.

consuming transloading of goods at border crossings caused by a lack of common legal frameworks and different technical standards, operational rules and regulatory measures.

- Road transport is the least formalized and regulated sector. Enormous challenges stem from a lack of facilitated visa issuance for different vehicle weight and dimension norms, emission controls, traffic rules and regulations, and regulatory control measures. Lengthy repeated inspections and complicated formalities result in significant delays at border crossings.

- The wide range of agreements is increasing regional fragmentation in operational connectivity. Most of these agreements set different legal conditions and operational regimes for intercountry transport.

- Asia and the Pacific is facing soaring demand for transport infrastructure to support its burgeoning population and economic development. As the region continues to grow, the public sector, which in many cases is in dire financial conditions, needs to find viable solutions to ensure the freedom of movement of the people and goods through other means of financing, such as public good pricing and private investment.

- There is a lack of public-private and private-private interaction in the formulation and implementation of transport connectivity.

3.2. Energy connectivity

The region accounts for almost half of the world's energy consumption, which is largely derived from fossil fuels, such as coal, oil and gas. Energy use is projected to nearly double from 2010 to 2035 on the back of the increasing global population and steady growth in GDP. At the same time, many economies are hampered by the under provision of energy, with insufficient supplies and interruptions in the power sector being a challenge for many developing countries. More than 400 million inhabitants in the region, most of which live in South Asia, are still not connected to electricity. As the region seeks to ensure energy security, the Paris Agreement also requires continuous efforts to reduce energy sector greenhouse gas emissions by switching to low or zero carbon sources and enhancing energy efficiency.

Sustainable Development Goal 7 - ensure access to affordable, reliable, sustainable and modern energy for all - is particularly significant because of its links to the achievement of other Goals, as the provision of energy and addressing sustainability concerns from energy use affect efforts to tackle poverty, climate change, health, education and environmental damage. Some of these links are direct; for example, energy is a key input into industrial development, transportation and communication networks, while others are indirect, as in the case of the delivery of effective health care and other services.

The differences in the distribution of energy among the countries in Asia and the Pacific varies widely for both fossil and renewable energy resources. Some countries have surpluses, while others must deal with deficits. The region as a whole has adequate energy resources to meet its large and growing demand, but most of its conventional energy resources are highly concentrated; total energy resources in five countries account for more than 85 per cent of the total energy resources in the region.

Connecting resources, such as gas, hydropower, solar and wind, to centres of population requires energy connectivity infrastructure, principally electricity transmission lines and gas pipelines. To further integrate energy processes, it would be useful to establish region-wide energy frameworks. Examples of such frameworks could be for promoting the integration of transmission lines, developing a common power grid for the electric power sector or setting up a regional grid for natural gas. Advances in renewable energy technology are unlocking new power generation opportunities in the solar and wind resource-rich areas of the region, while improvements in transmission technology, such as high-voltage direct current, are reducing the cost of transmitting electricity across large distances, thus enhancing the technical and economic feasibility of cross-border power trading. Establishing cross-border energy connections in electricity and gas infrastructure, which yields high net benefits for the parties involved, has long been pursued in the region but has often been too politically complex for an agreement to be reached and therefore has proceeded at a slow rate.[29]

[27] The Central Asia South Asia Electricity Transmission and Trade Project (CASA 1000) electricity grid connection between Central Asia and South Asia has been under development since the 1990s. The Turkmenistan-Afghanistan-Pakistan-India gas pipeline has had a similarly long gestation period.

Enhancing regional energy connectivity, if properly guided, can support the implementation of the 2030 Agenda and offer solutions to many national energy challenges, in particular the transition to a low-carbon energy system. In addition to linking dispersed supply and demand centres, power grid integration can play a role in raising the contribution of renewables to electricity generation. Renewable energy technologies, given their variable and only partly controllable output, need to be connected to larger or multi-country grids to achieve high penetration rates and fully harness their benefits. Cross-border grid interconnections can effectively provide energy markets with spatial arbitrage, bringing electricity with low marginal costs to meet demand in an adjoining country or area.

As newly installed generation capacity is increasingly geared towards low-carbon energy, power grid interconnection can play a long-term role in developing the required infrastructure for low-carbon electricity, serving diverse loads, including the nascent electric transportation sector. The ability to transport gas through cross-border pipelines can help to generate export revenue for supplier countries in addition to diversifying the energy mix, improving local air quality and supporting decarbonization efforts in destination countries.[30]

Unlike the transport sector, efforts to build energy infrastructure have remained confined to national economies, partly because self-reliance rather than connectivity was commonly viewed as the main way to ensure energy security. However, in the light of rapidly rising energy demand and with climate concerns on the rise, governments are starting to see regional connectivity and integration as the most appropriate framework to enhance energy security.

Although several energy connectivity initiatives in the Asia-Pacific region are being implemented, most of them are cross-border projects that are being carried out bilaterally. The Greater Mekong Subregion Programme is perhaps the most advanced of all subregional programmes in terms of harmonization of power policies and technical standards. Thus, in terms of creating subregional markets, Asia and the Pacific lags behind other developing regions, including Africa or Central America, where power pools and market integration are at a more advanced stage.[31]

In terms of subregional energy connectivity, the ASEAN and Greater Mekong Subregion programmes are among the most advanced in the region. For instance, the ASEAN Plan of Action for Energy Cooperation 2010-2015 is promoting greater cooperation in energy security, with 6 of the 16 planned interconnections under the ASEAN Power Grid and 12 bilateral gas pipeline interconnections that have been commissioned. The ASEAN region has also progressed well with regard to institutional development for energy connectivity through the work of the Forum of Heads of ASEAN Power Utilities/Authorities, the ASEAN Council on Petroleum, the ASEAN Forum on Coal, the Energy Efficiency and Conservation Sub-Sector Network and the New and Renewable Sources of Energy Subsector Network.

The Greater Mekong Subregion has been successful in promoting energy trade among its economies and in creating a harmonized policy and institutional mechanisms for the power sector. It is in the process of selecting the host country for the regional Power Coordination Centre, a permanent institution owned by the Greater Mekong Subregion countries for enhancing regional power trade and implementing regional power interconnection initiatives.

In Central Asia, the Central Asia Regional Economic Cooperation Programme has developed and is administrating an energy work plan for regional energy trade initiatives. In the plan, five main regional energy corridors for broader regional energy integration are set: (a) Central Asia-East Asia; (b) Central Asia-South Asia; (c) Intra-Central Asia; (d) Central Asia-Russian Federation; and (e) Central Asia-European Union. Additional projects are also in the works. Armenia is planning to synchronize its national power grid with that of Georgia through the development of transmission lines with the goal to triple electricity trade between the two countries by 2018. The Central Asia Regional Economic Cooperation Programme has also endorsed a strategic framework for energy cooperation, primarily to ensure energy security through the balanced development of the region's infrastructure and institutions and increased integration of the energy markets. In the same vein,

[30] This is applicable only in cases in which a coal-to-gas shift is possible and fugitive emissions from gas infrastructure are well managed.

[31] Yanfei Li and Youngho Chang, "Infrastructure investments for power trade and transmission in ASEAN+2: costs, benefits, long-term contracts, and prioritised development", *ERIA Discussion Paper Series*, No. DP-2014-2 1 (Jakarta, Economic Research Institute for ASEAN and East Asia, 2014). Available from www.eria.org/ERIA-DP-2014-21.pdf.

the treaty to establish the Eurasian Economic Union explicitly mandates the gradual creation of common markets for oil and petroleum products, gas and electricity.

In South and South-West Asia, the ultimate objective with regard to energy connectivity is to create a South Asian Association for Regional Cooperation market for electricity. This market could build on other projects, such as the CASA-1000 power line project, which is expected to take a leading role in the establishment of the Central Asia-South Asia Regional Electricity Market.[32] SAARC interconnections exist among some of its member States, such as Bhutan, India and Nepal, which have an arrangement that includes importing hydropower. There are also proposals for electricity interconnections between Bangladesh and India and between India and Sri Lanka, while the Islamic Republic of Iran currently trades electricity with Pakistan.

In contrast, intergovernmental frameworks for an integrated energy network are somewhat limited in East and North-East Asia, as most initiatives to promote cooperation in the subregion are bilateral and limited to small-scale projects linking China, the Democratic People's Republic of Korea, Mongolia and the Russian Federation. However, various ideas for additional energy connectivity have been proposed, including the Gobitec and the Asia Super Grid proposals, which are supported by the Japan Renewable Energy Foundation. Other proposals are aimed at harnessing the potential for renewable energy in Mongolia and the Russian Federation to supply electricity to the entire subregion.

While the Russian Federation has been a major exporter of oil and gas to Europe, the country has only recently started to develop infrastructure to transport gas to China and to the entire East and North-East Asia subregion. China has also been expanding its access to hydrocarbon by tapping reserves in Myanmar in recent years and through operations in Turkmenistan, which began in 2002.

In the Pacific, access to energy is low, while reliance on imported petroleum is high, which makes the subregion vulnerable to oil price volatility and fiscal management complicated. Given their small size and geographical dispersion, Pacific island countries could benefit from joint procurement of petroleum products. To reduce reliance on imported fuel, these countries plan to develop low-carbon and renewable sources of energy, especially for electricity generation. While hydropower and small-scale biofuels are emerging as attractive alternatives, solar is the most practical option, especially for meeting the energy and electrification needs of the rural and outer island communities.[33]

Inter-subregional energy connectivity has also been progressing in the Asia-Pacific region through various initiatives, including the Turkmenistan-Afghanistan-Pakistan-India gas pipeline, the Central Asia-South Asia Regional Electricity Market, and natural gas pipelines connecting the Russian Federation and Tajikistan with China. Proposals have been made to enhance gas trading in the region, especially among South Asia, Central Asia and the Islamic Republic of Iran. With the rising prominence of liquefied natural gas in global gas trade, several liquefied natural gas import terminal hubs have been proposed to serve as regional re-export facilities.

In 2013, the Government of China proposed the ambitious Belt and Road Initiative, which represents a long-term transcontinental plan for enhanced global economic cooperation and integration. This initiative is unprecedented in its scale and its vision. It seeks to underpin future growth, prosperity and sustainable development by promoting seamless connectivity and industrial and trade development to better integrate regional markets and people across Asia, Africa and Europe. It aims to link 65 countries that represent one third of global output, 40 per cent of global trade and 62 per cent of the world's population. The Belt and Road Initiative provides a good opportunity to strengthen energy connectivity along its six proposed economic corridors, spanning from China to Europe, and from the Russian Federation to Indonesia. In addition, the State Grid Corporation of China and the Global Energy Interconnection Development and Cooperation Organization are promoting local energy interconnection initiatives based on low emissions and renewable energy. The Belt and Road and the Global Energy initiatives and the transboundary power trade initiatives mentioned above offer great potential to reinforce each other in efforts to develop the region's renewable energy.

[32] The Central Asia-South Asia Regional Electricity Market will initially include Kyrgyzstan and Tajikistan in Central Asia (exporters) and Afghanistan and Pakistan in South Asia (importers), but other countries would be able to join the initiative as energy trade expands.

[33] Pacific Disaster Net, "Report on the summary of outcomes and proceedings from the Niue Pacific Climate Change Roundtable Meeting, 14 to 17 March 2011", 27 April 2011. Available from www.pacificdisaster.net/pdnadmin/data/original/PCCR_NIU_2011_Report_summary.pdf.

Importantly, the Belt and Road Initiative offers an opportunity to reflect on and contribute to the development of a more standardized approach towards transboundary energy trade and connectivity. This would result in a significant improvement over the current framework in which infrastructure development projects for transboundary energy trade and connectivity are developed and negotiated independently. For optimum and swift action, the development of energy networks should be an integral part of the overall regional cooperation strategy and be backed by an effective institutional coordination mechanism in which the region moves from an ad hoc approach to tapping ESCAP to play an effective role in dealing with bilateral concerns in a multilateral platform.[34]

The principal challenges to achieving region-wide seamless energy connectivity are summarized as follows:

- Policymakers and private sector experts cite as a key barrier the issue of political trust among potential or current energy trading countries. Energy security issues are of prime importance to the political leadership, and efforts for building energy infrastructure have remained confined to national borders. This is partly because for more than fifty years, energy development was harnessed to conserve and safeguard a country's own energy resources rather than examine competitive options of regional connectivity on the view that this would foster national energy security. It was assumed that regional energy trade would compromise national energy security as it entails import dependency on neighbouring countries. The view that the national energy transition should be linked with the regional and global energy transition that factors in cross-border consequences of national decisions of sources and uses of energy has gained prominence only in recent years. There is need for a change in the political and policy mindset in order to build awareness about the gains and benefits of regional energy connectivity, which has been underexploited because of national biases.

- Enhancing national and regional energy security through energy interdependence, as opposed to energy independence, must become an objective. Technology, regulatory, and financial barriers can be effectively overcome through consensus-building. However, for this collaboration to evolve, there is need to promote an effective, results-oriented and innovative regional energy cooperation mechanism, which also involves different stakeholders, including government, the private sector, industry and financing institutions. With climate concerns increasing along with the adoption of the Paris Agreement and the rapidly rising energy demand, governments in the Asia-Pacific region are now viewing regional connectivity and integration as the appropriate framework to enhance energy security.

- Over the last four decades, the Asia-Pacific region has transformed itself into a global manufacturing hub; this has been made possible because of success in connecting to global production networks and supply chains largely driven by advances in information technology, declining transport costs and the lifting of trade barriers across countries. As with the global production networks that created a positive force for reinforcing the bottom-up market integration process, greater efforts are needed to connect the energy markets of the region. Trade and investment in regional energy networks remain low, aside from some cross-border investments, even though there appears to be many opportunities waiting to be tapped.

- Many factors can be attributed to this disconnect. Energy networks are capital-intensive and, because of the large sunk costs incurred by them, there are major challenges associated with financing and maintenance, especially when they are subject to different legal and regulatory regimes. In the current situation, even with subregional support, cross-border projects incur large transaction costs, and it takes an extended period for a project idea to move from the drawing board to secure multiple approvals and be implemented.

- Finally, large positive and negative externalities are inherent in energy connectivity. Invariably, there are problems in the measurement of the costs and benefits, and in designing policy regimes that fully deal with those externalities. Balancing the gains with overall costs among

[34] At the time of writing, 13 memorandums of understanding, two cooperation protocols, and 19 bilateral agreements have been signed under the Belt and Road Initiative in energy.

different groups of stakeholders requires a robust institutional mechanism. The energy integration process is not limited to the creation of physical links across borders; also required are a series of policies and regulations for facilitating different types of flows inherent in the process.

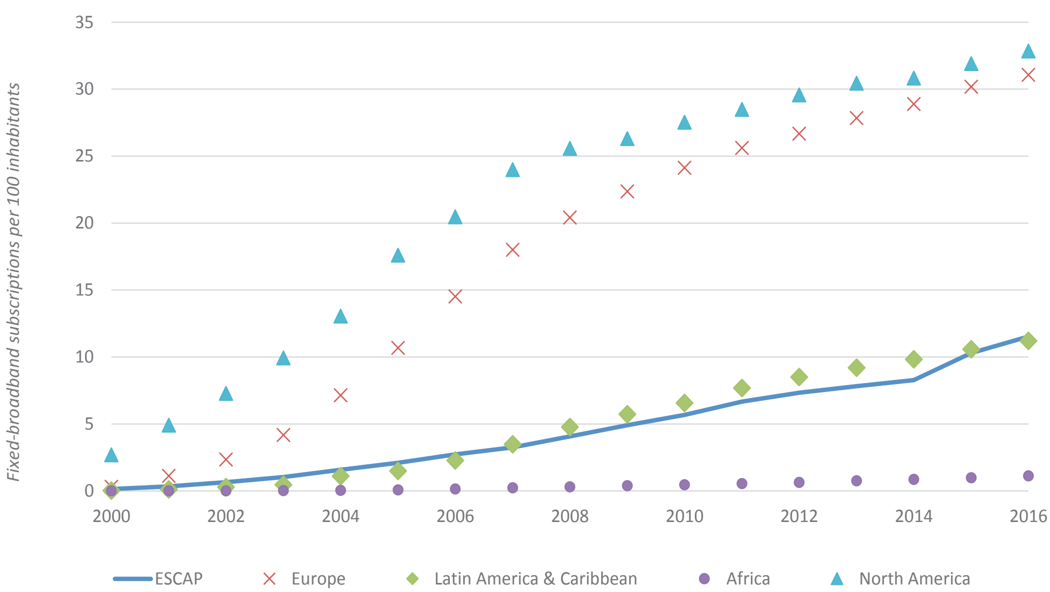
3.3. Information and communications technology

In addition to enabling better communications, ICT is playing a vital role as an accelerator of sustainable development: it is critical in efforts to enhance economic efficiencies, expand the delivery of social services, strengthen disaster risk management and use resources in such areas as agricultural production, smart grid and intelligent transport systems in a more sustainable manner. The successful roll-out of mobile telephony in the region, which reached a penetration rate of 101 mobile phone subscriptions per 100 inhabitants in 2016, has been made possible by rapid technological progress. This, in turn, has resulted in affordable devices and services, which, in most cases, are accompanied by a reasonably favourable regulatory environment.

However, tapping the full potential of ICT in Asia and the Pacific is being held back by the availability and affordability of broadband Internet (figure 3.3). The region has one of the widest gaps in fixed broadband connectivity, with some countries being world leaders in broadband adoption and others recording the lowest broadband penetration globally.[35]

In terms of bandwidth availability per user, the digital divide has increased significantly between 2009 and 2013, with bandwidth availability rising sharply in advanced countries and growing slowly in poorer economies. Analysis conducted by ESCAP reveals that in 2016, 76 per cent of the fixed broadband subscriptions were registered in East and North-East Asia alone, even though the subregion accounts for only 37 per cent of the total population of the Asia-Pacific region. Of even more concern is that 19 economies in the region have a fixed broadband penetration rate of less than 2 per cent, while the rate for leading economies, such as Japan, the Republic of Korea and Hong Kong, China, exceeds 30 per cent, amid signs of a widening gulf between low-income and high-income countries over subsequent years.

FIGURE 3.3. Fixed broadband subscriptions per 100 inhabitants (average) by region, 2000-2016



Source: ESCAP calculations based on International Telecommunication Union, World Communication/ICT Indicators database (accessed 31 July 2017).

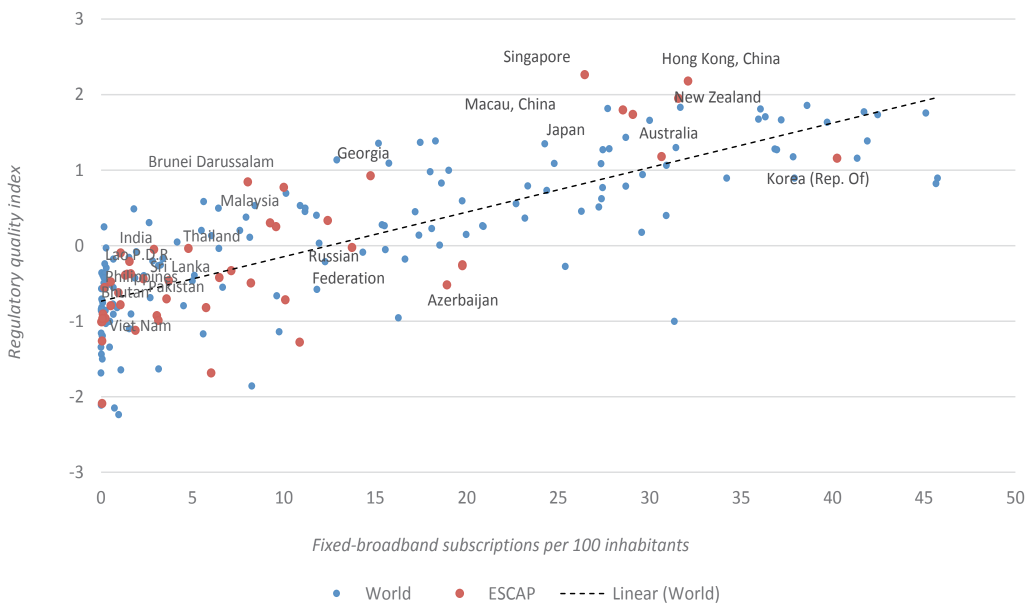
[35] ESCAP, "Harnessing cross-sectoral infrastructure synergies", Working Paper (2014).

Based on ESCAP analyses, the main causes of the digital divide originate from lack of investment in resilient ICT infrastructure, limited availability of international bandwidth, ineffective Internet traffic and network management, lack of conducive and enabling regulations for investment, and lack of capacity and awareness among policymakers and regulators.[36]

The current terrestrial networks of fibre-optic cables in developing countries in Asia and the Pacific are typically constrained by limited access to international transit. Furthermore, the backhaul networks of developing countries are usually poorly meshed and follow a "river system" pattern in which networks spread from submarine landing stations and thin out into countries' hinterlands.[37] Landlocked countries are particularly affected as they rely on a few outdated terrestrial connections and on neighbouring countries to connect to regional and global cable systems. The availability and affordability of bandwidth could be improved through efforts to interconnect national fibre-optic backbone networks with those of neighbouring countries and with regional and global fibre-optic networks.

The regulatory environment is another element that affects broadband expansion. Governments need to establish stable, supportive and predictable regulatory policies that encourage private sector investment in bankable ICT infrastructure projects. Effective regulation and fixed broadband growth have been found to be correlated in an ESCAP study, in addition to e-commerce development (see figures 3.4 and 3.5). Using a cross-section of averages between 2000 and 2015 for countries in the world with available data on investment and access, a study by the United Nations Conference on Trade and Development also shows a positive relationship between investments and fixed broadband and mobile broadband subscriptions, demonstrating the critical role that investments play in increasing access to ICT. The positive correlation coefficient (0.87) is statistically significant (p<0.01) for fixed broadband subscriptions.

FIGURE 3.4. Perception on quality of regulation and fixed broadband connectivity, 2014



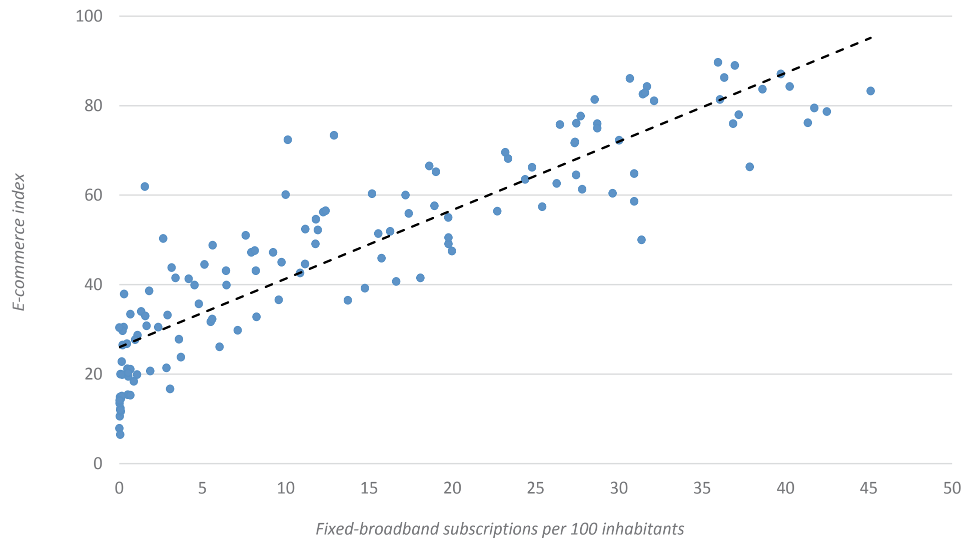
Source: ESCAP calculations based on World Bank, Worldwide Governance Indicators (accessed 31 July 2017).

Note: Estimates for regulatory quality ranges between -2 and +2 (-2=poor, +2=best).

[36] ESCAP, "State of ICT in Asia and the Pacific 2016: uncovering the widening broadband divide" (2016). Available from www.unescap.org/sites/default/files/State%20of%20ICT%20in%20Asia%20and%20the%20Pacific%202016.pdf.

[37] Organization for Economic Cooperation and Development, "International cables, gateways, backhaul and international exchange points", OECD Digital Economy Papers, No. 232 (Paris, 2014). Available from www.oecd-ilibrary.org/content/workingpaper/5jz8m9jf3wkl-en.

FIGURE 3.5. E commerce versus fixed broadband access, 2015



Source: ESCAP calculations based on fixed broadband subscriptions per 100 inhabitants sourced from International Telecommunication Union, World Communication/ICT Indicators database (accessed 31 July 2017) and United Nations Conference on Trade and Development, "UNCTAD B2C e-commerce index 2016", UNCTAD technical notes on ICT for development No. 7 (Geneva, 2016), available from http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d07_en.pdf.

One of the key underlying components of access and affordability to broadband Internet is the total amount of available international Internet bandwidth (measured in Mbit/s), which measures the volume of Internet traffic that can travel from one country to another (akin to the width of highways in road transport). High prices for wholesale capacity can also be attributed to suboptimal regulatory frameworks, which result in the following: control of key transmission facilities by incumbent operators; lack of appropriate Internet exchange points; and lack of alternative transit routes to enhance competition at the regional level and improve network efficiency.

As the Asia-Pacific region is reputed to be the most disaster-affected region in the world, a critical element for advancing cross-border seamless ICT connectivity is infrastructure that can withstand system-wide shocks and quickly recover and continue to provide a minimum level of operational services. Because ICT underpins the functioning of effective information management systems and resilience building at all stages of the disaster cycle, e-resilience must therefore become an integral part of seamless regional connectivity.

Strengthening ICT connectivity could bring multiple socioeconomic benefits, including through enabling entrepreneurship, innovation and economic growth, and facilitating the provision of services in an efficient and effective manner. Indeed, ICT as meta-infrastructure is applied in education, finance, commerce, governance and welfare, among other sectors, and serves as a vehicle to accelerate sustainable development while supporting other infrastructure, such as trade, transport and energy connectivity.

In this regard, the Asia-Pacific Information Superhighway is expected to increase the availability and affordability of broadband Internet across the region by strengthening its underlying infrastructure and developing an enabling Internet ecosystem.

The principal challenges faced in achieving region-wide seamless ICT connectivity are summarized as follows:

- There is an expanding and accelerating digital divide, both among and within countries, especially in access to fixed broadband. As ICT supports all sectors as a development accelerator, a widening broadband divide, if not dealt with, will have extensive negative impacts on the development of the digital society and economy and the attainment of inclusive and sustainable development in the coming years.

- Infrastructure gaps, particularly transboundary connectivity between neighbouring countries, a limited enabling policy and regulatory environment, and lack of financing mechanisms are major hindrances to expanding national and regional connectivity, which is required to close the broadband divide and expand opportunities for inclusive and sustainable development. Building resilience is a development imperative in the region because of its disproportionate share of economic damage and losses resulting from disasters.[38] As disasters roll back development gains, any repeated reconstruction of ICT infrastructure adds significant financial strain, especially on least developed countries, landlocked developing countries and small island developing States. Enhancing disaster preparedness and resilience in ICT networks and applications would not only protect ICT assets, but it would also ensure uninterrupted ICT services for disaster response and recovery.

- It is important to take advantage of the interlinkages, interdependencies and synergies across different types of infrastructure. For instance, about 80 per cent of the costs for deploying terrestrial fibre networks is associated with digging, trenching and laying down the conduits through which fibre is subsequently threaded. Deploying fibre optics during planned major works to other infrastructure, such as roads and pipelines, can significantly reduce cumulative costs, while revenue is augmented and diversified from the resulting digital traffic.[39]

3.4. Common challenges

Despite the diversity of issues facing each of the three connectivity areas, there are a series of common challenges experienced by all. These are summarized below:

- ***Bottom-up process***. Most of the cross-border connectivity projects in the region have been negotiated bilaterally between parties. Although such projects are effective in meeting bilateral objectives, their fragmented nature is not conducive to achieving the seamless connectivity that the region needs to successfully implement the 2030 Agenda. In addition, the plethora of agreements and frameworks that have been finalized under various bilateral and subregional initiatives has increased regulatory burdens and transaction costs.

- ***Asymmetric costs and benefits, externalities and compensation mechanisms***. Regional infrastructure projects invariably involve asymmetric costs and benefits across countries and groups of people. For example, transit countries tend to bear disproportionally larger costs, while the benefits of lower trade and transport costs accrue to consumers and manufacturers of products. Similarly, most infrastructure networks are space-specific and involve large externalities. Such issues pose a challenge in implementing infrastructure projects. Therefore, regionally accepted, transparent and fair rules and regulations need to be put in place for internalizing and monetizing asymmetric costs and to ensure the fair distribution of costs and benefits among stakeholders. Moreover, to suitably compensate affected groups and countries, an effective and credible compensation mechanism, supported by a robust institutional arrangement, needs to be developed.

- ***Planning, coordination, and cross-sectoral infrastructure synergies***. As part of the effort to expand the existing physical networks of transport, energy and ICT, and ensure seamless connectivity, it would be beneficial to consider them as a system, as this would result in significant cost and time savings. For instance, the costs to deploy terrestrial fibre networks, most of which are associated with digging, trenching and laying down conduits, can be significantly reduced if the work takes place along major roads, railways, power transmission lines, pipelines or waterways. In general, building connectivity networks requires careful planning and coordination, which are often absent because of a lack of resources and appropriate institutional mechanisms. The challenges associated with planning and coordination are more pronounced when the countries involved have different legal and regulatory regimes.

[36] Network diversity opens up options for alternative mediums of communication traffic through meshed architecture, namely that there is more than one route to take from a source to its destination. This is essentially the same principle behind the Internet, creating a highly networked environment with multiple routes for communications traffic. Redundancy provides fail-safe options such that if one critical infrastructure point failed, there would be "backup" options or an identified way to quickly bring such infrastructure back online.

[37] E/ESCAP/CICT(4)/2–E/ESCAP/CTR(4)/2.

- ***Regional vision and political will***. Most infrastructure networks require lumpy government investments that are capital intensive and are of little use unless their construction is completed and well maintained. They are thus domestically driven, with cost-benefit analysis typically assessed from a domestic return-on-investment perspective, and the regional public good value heavily discounted or left out. For example, prior to the creation of the Asia-Pacific Information Superhighway, there was no regional cooperation framework for seamless ICT connectivity. Therefore, along with careful planning and coordination, strong political will at the regional level and a shared vision of governments are critical for setting up effective, region-wide coordination mechanisms for infrastructure development.

- ***Financing***. The building blocks of regional seamless connectivity are supported by the national infrastructure development in each country of the region. Thus, lack of adequate financing resources to undertake needed infrastructure projects at the national level in different sectors is a major challenge.

3.5. Way forward

Below are some suggestions to further move towards the objective of seamless connectivity.

Transport connectivity

Intergovernmental agreements must be used to enhance the delivery capability of the region's infrastructure networks and services. This calls for integrated planning, development and operation of transport and logistics networks that are well connected within national boundaries, and simultaneously linked across borders, and steps to improve productivity and efficiency of transport systems in terms of cost, convenience, load factor and transit time demand. There is need to implement existing common regional strategies and frameworks and action-oriented and priority-based intergovernmental development programmes. Proposed amendments to the Asian Highway and Trans-Asian Railway network agreements that encourage co-deployment of fibre-optic cables with transport infrastructure would enhance the cost effectiveness of infrastructure projects.

Technical standards and operational rules need to be harmonized. As with corridors, connectivity would benefit from harmonization of technical standards and operational rules. As a first step, systems and common technical standards to facilitate interoperability need to be developed. In the absence of international standards, regional harmonization is required in order to set regional standards and operational rules.

In advancing regional connectivity, it is important to take advantage of new possibilities arising from modern technologies, such as intelligent transport systems. For this purpose, it is necessary to establish an enabling cooperative framework to improve the quality and ease the delivery of services, clearances at border crossings, usage-based maintenance of assets, traffic monitoring and public safety.

Cooperation should be reinforced by focusing on solution-oriented policies and actions. Support is needed in creating a broad partnership platform on seamless and sustainable transport connectivity between the public and private sectors. This would facilitate the development of approaches to better integrate the three dimensions of sustainable development (economic, environmental and social) to promote regional transport connectivity in a more sustainable manner.

Energy

Barriers to energy trade need to be addressed through the removal of legal, regulatory and technical hurdles. Despite the many benefits from energy-resource sharing, a number of countries have explicit and implicit restrictions on exports and imports of energy goods and services; these must be lifted.

It is important to promote sufficient levels of technical and regulatory standardization to facilitate greater interconnectivity and the eventual development of an integrated power grid.

To promote competitive energy market structures, it is necessary to rationalize the State's role and implement measures to improve the investment climate to attract new investment, improve efficiency and adopt new technologies.

To facilitate transboundary power trade, a regional mechanism can be developed to streamline contracts, increase the availability of financing, reduce risk, and accelerate project development through the building of mutual trust among parties. A broad regional agreement and strong institutional arrangements are critical for monitoring and ensuring that benefits are realized and creating neutral institutions to regulate project implementation.

Finally, it is important to build on existing political support to promote further regional energy connectivity. In that regard, there is need to formalize and consolidate declarations and intentions at the subregional level in the form of an Asia-Pacific energy charter. This would help to nurture long-term commitments from member States and provide increased comfort and confidence to the private sector and institutional investors.

Information and communications technology

Recognizing the above-mentioned connectivity deficits, ESCAP member States initiated the Asia-Pacific Information Superhighway in 2015. This initiative aims to increase the availability, resilience and affordability of broadband Internet across Asia and the Pacific by strengthening the underlying Internet infrastructure through four pillars: (a) physical infrastructure development; (b) Internet traffic and network management; (c) promoting e resilience; and (d) broadband for all.

Under the Asia-Pacific Information Superhighway initiative, it is recognized that investment in ICT infrastructure is critical to improving ICT connectivity and lessening the digital divide. Towards this end, the ESCAP Committee on Information and Communications Technology, Science, Technology and Innovation, at its first session, endorsed the implementation of the Master Plan for the Asia-Pacific Information Superhighway and the Asia-Pacific Information Superhighway Regional Cooperation Framework Document, including the financing mechanisms, as a regional platform for narrowing the digital divide, achieving the Sustainable Development Goals and promoting integrated infrastructure development in other sectors, such as trade, transport and energy, and recommended expanded support for the initiative.

In addition, at the policy level, there is need to ensure that national, subregional and regional policies and regulations on ICT are aligned with the goals of the 2030 Agenda and implemented so that ICT can contribute meaningfully and to its full potential in the achievement of the Goals. Within this policy framework, given the disaster-prone nature of the region, there is also need to give the integration of e-resilience principles much higher priority in existing and future ICT infrastructure investment projects.

Development and implementation of regional connectivity projects requires a significant amount of time and cost, which are typically spent on negotiations and the acquisition of rights of way and

BOX 3.1. Examples of cross-sectoral co-deployment

Fibre- optic cable, the infrastructure for data and voice travel, is often deployed along highways, roads, railways, high-voltage transmission lines and pipelines. It allows for more affordable data transmission services and improved access to broadband. Most examples of co-deployment can be found at the national level. For example, Railtel of India leases fibre-optic cables to telecom operators that serve urban and rural communities, while the Bangladesh Railway[a] has leased its line to Grameen phone and commissioned 1,800 km of fibre-optic cables along the country's rails, providing Internet access to 90 per cent of the population.

Increasingly, such initiatives are also to be found in transboundary infrastructure projects. For example, the Baku-Tbilisi-Kars railway project involves a plan for the co-deployment of fibre-optic cables along the railway connecting Azerbaijan, Georgia and Turkey[b]. Meanwhile, the Trans-Asian Railway is an intergovernmental agreement to facilitate cross-border connectivity in 28 ESCAP member countries. ESCAP member countries have recommended an amendment to this agreement to consider co-deployment of fibre-optic cables [c].

[a] Manisa Pipattanasomporn and Saifur Rahman, "Information and communication technology infrastructure and its distributed generation solutions in remote areas", Proc. 2002 the International Conference on Electrical and Computer Engineering (ICECE) (December 2002).

[b] Hajizadeh Elshan Mahmud, Great Silk Road and the "Baku-Tbilisi-Kars" project, September 2015. Available from www.researchgate.net/publication/318589145_BAKU-TBILISI-KARS_PROJECT.

[c] See E/ESCAP/CTR(4)/7.

other administrative work. While a similar national project, whether it be in transport, energy or ICT, may face similar challenges, a regional project poses additional challenges as multiple countries are involved, and a delay and disagreement in one country might affect the other countries. Co-deployment of infrastructure can reduce the bottlenecks and accelerate the pace of planning and deployment, particularly in landlocked developing countries. Leveraging existing regional connectivity agreements in which cross-border connectivity has already been agreed to, such as the Intergovernmental Agreement on the Asian Highway Network, the Intergovernmental Agreement on the Trans-Asian Railway Network or the Intergovernmental Agreement on Dry Ports, can be an efficient way to deploy cables and networks more rapidly in a cost-efficient manner that would also bring diversified and augmented sources of revenue-generation.

A regional connectivity initiative could benefit from a regional agreement, framework and consensus that sets out principles, objectives, cooperation and implementation modalities. Such a regional template would reduce the time and cost associated with negotiations and consultations for a regional, subregional and bilateral connectivity initiative. It would also help to harmonize policies and regulations. For example, in the Master Plan for the Asia-Pacific Information Superhighway and the Asia-Pacific Information Superhighway Regional Cooperation Framework Document, open access and competition are promoted as principles to narrow the digital divide and achieve inclusive and sustainable development in the region. They also provide implementation modalities, a governance structure and options for financing mechanisms.

Despite the challenges, bottlenecks and additional complexities of regional connectivity initiatives, certain actions and measures could increase the likelihood of securing investment and financing as part of successful implementation. As Asia and the Pacific is a disaster-prone region, integrating disaster risks and disaster risk mitigation into a regional connectivity initiative from the planning phase would build e-resilience and increase the quality and investment attractiveness of projects. The integration of resilience in infrastructure is a development objective articulated in the 2030 Agenda, the Sendai Framework and other internationally agreed development frameworks.

CHAPTER IV

ENHANCING REGIONAL FINANCIAL COOPERATION IN ASIA AND THE PACIFIC

Increases in the availability of financing and quality of financial services along with improvements in the management of public resources can be very effective in supporting sustainable development in Asia and the Pacific. In the Bangkok Declaration on Regional Economic Cooperation and Integration in Asia and the Pacific emphasis is placed on regional cooperation in such areas as (a) equipping countries with tools to cope with financial volatility and ensure financial stability through, among other things, cooperative arrangements for the provision of liquidity support; (b) strengthening national financial markets and establishing linkages among them; and (c) effectively mobilizing resources across and within countries.

Since the Asian financial and economic crisis of 1997-1998, economic and financial policies and the regulatory and institutional architecture in the Asia-Pacific region have steadily improved through better financial cooperation. For instance, regional arrangements, such as the ASEAN+3 liquidity facility, the Chiang Mai Initiative Multilateralisation, and the Asian Bond Market Initiative, offer liquidity support and promote local currency bond markets to minimize risks arising from currency or maturity mismatches. Many other subregional and bilateral arrangements between central banks or finance ministries contribute to a regional financial safety net and policy coordination.

Over the years, financial integration has expanded in the Asia-Pacific region, although at a slower pace in comparison to other regions, such as North America or Western Europe. The continued development of the financial markets in Asia and the Pacific has resulted in increases in cross-border flows and transactions, leading to a higher degree of convergence in interest rates. In this regard, South-East Asia is the most advanced subregion, as ASEAN finance ministers and central bankers have agreed on an action plan for financial market integration as part of the ASEAN Economic Community initiative.

Regional financial development calls for greater diversification of financial markets and the effective management of liability risk. In addition, financial intermediation must be more inclusive and capable of arranging financing to meet the large and growing demands associated with the development of sustainable infrastructure and other development objectives.

The region, with its high level of foreign exchange reserves (60 per cent of the global reserves) and almost 50 per cent of the global savings, has the potential to build a strong financial and investor base from which it can leverage private capital. To effectively do this, deeper capital markets, the development of the institutional investors' segment, and an enabling policy environment are required.

The region's inability to adequately tap opportunities presented by high global and regional liquidity has been accompanied by constraints in public resource mobilization and management. Despite having large tax potential, most countries continue to exhibit low levels of tax-to-GDP ratios. Many of them also provide generous subsidies, irrespective of their economic rationale and environmental consequences, and user charges applicable to those with the ability to pay them are rarely used, which makes sustainable consumption and production more difficult. Therefore, there is phenomenal scope for mobilizing and spending public resources more effectively, and regional cooperation could be very fruitful for sharing the best tax and public resource management policies and practices.

4.1. The financial landscape of Asia and the Pacific

The financial landscape in the Asia-Pacific region is characterized by a significant degree of diversity. National financial systems range from a few large and diversified financial hubs that are thriving, well-regulated and globally integrated to a larger number of middle-sized emerging markets.

However, financial markets in most economies are relatively underdeveloped in terms of size, liquidity and maturity, which impedes the channelling of long-term savings to long-term investments. Furthermore, financial intermediation is predominantly bank-based in most countries, and financial innovation, including venture capital, plays only a limited role in corporate financing in most economies.

Banks tend to focus on traditional bank businesses of deposit taking and consumer lending to households and larger companies. In many countries, banks play a role in financing economic development, export promotion and public investment projects, and in some of the region's largest countries, including China and India, more than half of the banking assets are State-owned. While direct government ownership and explicit and implicit guarantees have played a useful developmental role, they have supported unprofitable businesses. In all, the region's banks still need to realize their full potential to contribute to the development of competitive and efficient financial systems to enable them to cater more efficiently to the requirements of the 2030 Agenda.

Despite the dominant role of banks in the region's financial systems, capital markets have expanded significantly over the last two decades. The region's equity market capitalization amounted to $22.8 trillion in 2016, or 35 per cent of the capitalization of the global market.[40] The capitalization of the region's developing countries equity market increased significantly over the last decade, from $5.8 trillion in 2006 to $16.5 trillion in 2016. However, the development of equity markets has been highly concentrated in a few economies, with China; India; the Republic of Korea; and Hong Kong, China representing 81 per cent of the total. This suggests that the full potential of stock markets in developing countries still needs to be exploited. Regarding the development of local currency bond markets, considerable progress has been made among the emerging East Asian countries between December 2006 and December 2016, with the size of the market increasing from $2.7 trillion to $10.2 trillion over that time frame.[41] However, this market remains dominated by government bonds, which accounted for 64.6 per cent of the total.

A look at the financial market depth index developed by the International Monetary Fund (IMF), which captures the importance of stock and bond markets as a share of gross domestic product (GDP), supports this point. For instance, in East and North-East Asia, the index has more than tripled from 0.22 in 1995 to 0.70 in 2014. For South-East Asia, growth in the depth of the financial markets was even higher, though it started from a lower base of 0.05 in 1995 to 0.25 in 2014. The North and Central Asia subregion also progressed in this regard; the index started from an even lower starting point, 0.02 in 1995, and reached 0.09 in 2014 (see figure 4.1, left panel).[42]

In contrast, progress in increasing the depth of the region's financial institutions has been more subdued. The financial institutions index, which captures the importance of bank credit, pension fund assets, mutual fund assets and insurance premiums, increased from 0.52 in 1995 to only 0.60 in 2014 in East and North-East Asia, while it decreased from 0.20 to 0.13 during the same period in South-East Asia. This decrease is attributed to a marked disintermediation process resulting from the Asian financial crisis. As with the financial markets depth index, North-Central Asia experienced robust growth, albeit starting from a low base (from 0.03 in 1995 to 0.13 in 2014) (see figure 4.1, right panel).[43]

The lack of depth and breadth in the financial markets of many Asia-Pacific developing countries is accompanied by an insufficient degree of financial market diversification. Despite advancements in macroprudential regulatory frameworks, tendencies to manage businesses through high sector exposures remains an issue. This business model needs to change if financial markets are to support the implementation of the 2030 Agenda. There is considerable room to enhance financial inclusion, channel credit to underserved sectors and to small and medium-sized enterprises, strengthen financing for the development of sustainable infrastructure, and promote climate financing.

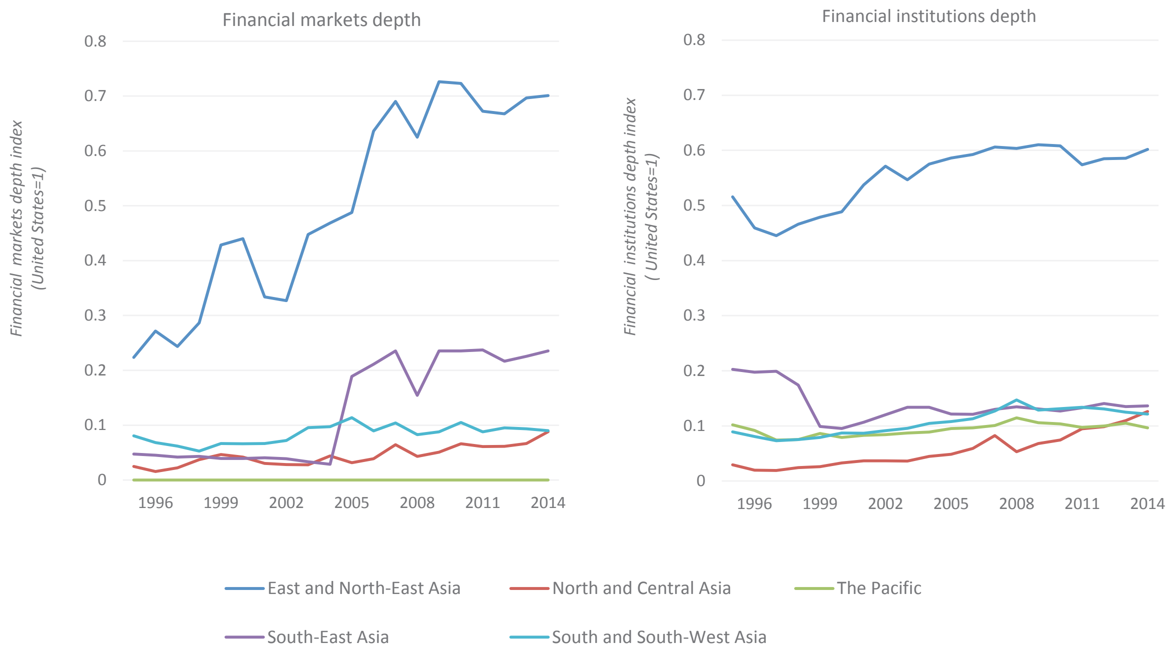
[40] World Bank, Market capitalization of listed domestic companies, World Development Indicators. Available from http://data.worldbank.org/indicator/CM.MKT.LCAP.GD.ZS (accessed 18 August 2017).

[41] See https://asianbondsonline.adb.org/. The East Asian emerging markets are China; Indonesia; Malaysia; Philippines; Republic of Korea; Singapore, Thailand; Viet Nam; and Hong Kong, China.

[42] The figures are normalized so that a value of 1 represents the value of the index for the United States of America in each year.

[43] See annex II for more details on financial markets and financial institutions development in Asia and the Pacific.

FIGURE 4.1. Indicators of financial development in Asia and the Pacific (medians by subregion)



Source: ESCAP based on data from Svirydzenka, K. Introducing a new broad-based index of financial development. IMF Working Paper 16/5, 2016. Washington D.C.: International Monetary Fund.

Note: The financial markets depth index is an aggregate of five indicators: (a) Stock market capitalization to GDP; (b) stocks traded to GDP; (c) international debt securities of government to GDP, (d) total debt securities of financial corporations to GDP; and (e) total debt securities of nonfinancial corporations to GDP. The financial institutions depth index is an aggregate of four indicators: (a) private-sector credit to GDP; (b) pension fund assets to GDP; (c) mutual fund assets to GDP; and (d) insurance premiums, life and non-life to GDP. The two indices are normalized so that a value of one represents the level of financial market depth or financial institutions depth of the United States.

4.2. Current arrangements to support financial stability

Recognizing that national policy decisions can have systemic and far-ranging effects well beyond national borders, the Addis Ababa Action Agenda is committed to fostering cooperation to prevent and reduce the risk and impact of likely financial crises.[44] Fostering financial stability is also one of the goals of regional financial cooperation stipulated in the Bangkok Declaration. For that purpose, two important policy instruments are: effective economic surveillance and monitoring, and provision of short-term liquidity support in case of emergencies. Asia and the Pacific has made progress in those two areas, although the level of progress varies across its subregions.

With respect to subregional economic surveillance, the Association of Southeast Asian Nations (ASEAN) Surveillance Process has been the first formal institutional mechanism established in the region. Introduced in 1998, it provides a peer review of economic surveillance and monitoring in the annual ASEAN Surveillance Report. This serves as the main input for annual policy discussions involving ASEAN finance ministers.

The Economic Review and Policy Dialogue, introduced in May 2000, is the regional economic surveillance forum of the ASEAN+3 finance ministers and central bank governors.[45] It encompasses a review of global, regional and national economic conditions, monitoring of regional capital flows and currency markets, and identification of macroeconomic and financial risks and policies to reduce such risks.

[44] General Assembly resolution 69/313, annex, para. 105.

[45] The dialogue process, which brings together ASEAN, China, Japan and the Republic of Korea, has aimed at strengthening policy dialogue, coordination and collaboration on common financial, monetary and fiscal issues.

It also aims to strengthen banking and financial system conditions and provides an Asian voice in the effort to reform the international financial system. In April 2011, the ASEAN+3 authorities established the ASEAN+3 Macroeconomic Research Office, a unit entrusted with regional economic surveillance.

In the Pacific, the Association of Financial Supervisors of Pacific Countries, established in 2002, meets regularly to discuss supervisory and surveillance-related developments. In North and Central Asia, the Eurasian Economic Community, which was replaced by the Eurasian Economic Union on 1 January 2015, launched the Anti-Crisis Fund in 2009 as a regional financial arrangement to help member countries cope with the global financial crisis. In 2015, the fund was transformed into the Eurasian Fund for Stabilization and Development, which supports members' adjustment programmes while overseeing surveillance mechanisms.

Regarding short-term liquidity support, ASEAN established the ASEAN Swap Arrangement in 1997 to deal with balance of payment difficulties. Over the years, the total amount available for swap transactions has been raised from $100 million to $2 billion. Subsequently, the Chiang Mai Initiative was established in 2000 as a network of bilateral swap agreements, combining the ASEAN Swap Arrangement with many of the bilateral swap agreements between different ASEAN+3 member countries. In 2010, the Chiang Mai Initiative Multilateralization was set up to pool this network of bilateral swap agreements into a single reserve pooling arrangement of $240 billion. Crisis-affected members are eligible for short-term liquidity support from the Chiang Mai Initiative Multilateralization up to 30 per cent of their quota. To access the remaining 70 per cent of their quota, they need to be under an IMF arrangement. Access to funds through the Chiang Mai Initiative Multilateralization is linked to an IMF arrangement because of countries' limited capacity to formulate and enforce effective adjustment programmes during crises.

Examples of other sizeable swap arrangements in the region are the $2 billion Framework on Currency Swap Arrangements for South Asian Association for Regional Cooperation Members, established in 2012 by the Reserve Bank of India; the China-led $230-billion bilateral swap agreement for more than thirty countries, which became effective in 2009; and, as mentioned above, the Eurasian Economic Community-led Eurasian Fund for Stabilization and Development, of about $8.5 billion, which offers financial credits and investment loans.

4.3. Status of cooperation on capital market development

As a valuable tool for the mobilization of financial resources, further development of capital markets in the Asia-Pacific region can contribute to the attainment of Goal 17, target 17.3 of the 2030 Agenda.[46] To advance cooperation among countries to expand the capital market, several initiatives have been undertaken in Asia and the Pacific. Among the most notable ones are the Asian Bond Fund Initiative, introduced in June 2003 by the Executives' Meeting of East Asia and Pacific Central Banks and the Asian Bond Markets Initiative, launched by ASEAN+3 in August 2003.

The Asian Bond Fund-I called for purchases by central banks of sovereign and quasi-sovereign United States dollar-denominated bonds issued by 8 of the 11 members of the Executives' Meeting of East Asia and Pacific Central Banks using their foreign exchange reserves.[47,48] To facilitate investments by public and private sector entities, Asian Bond Fund-II was set up for purchases of $2 billion in local currency-denominated sovereign and quasi-sovereign bonds and the listing of local currency exchange-traded bond funds on stock markets, including on the exchanges in Malaysia, Singapore and Hong Kong, China.

The objective of the Asian Bond Markets Initiative is to help develop local currency bond markets by creating robust primary and secondary markets and improving market access to a diverse issuer and investor base. Few countries have a developed corporate bond market. ASEAN+3 is currently working on integrating regional bond markets through the ASEAN+3 Bond Market Forum by harmonizing and standardizing market practices, regulations, and

[46] Mobilize additional financial resources for developing countries from multiple sources.

[47] The members of Executives' Meeting of East Asia and Pacific Central Banks are the central banks of nine East Asian economies (China; Indonesia; Japan; Malaysia; Philippines; Republic of Korea; Singapore; Thailand; and Hong Kong, China) plus Australia and New Zealand.

[48] Sean Kidney, Diletta Giuliani and Beate Sonerud, "Public sector agenda for stimulating private market development in green securitisation in Europe", Policy Paper, February 2017 (London, Centre for Climate Change Economics and Policy, 2017). Available from www.cccep.ac.uk/publication/public-sector-agenda-for-stimulating-private-market-development-in-green-securitisation-in-europe/.

clearing and settlement procedures related to cross-border bond transactions.

Similarly, the ASEAN Capital Market Forum, which comprises capital market regulators, is focusing on the harmonization of rules and regulations and fostering the integration of the region's capital markets, including through capital market disclosure standards for cross-border offerings of securities. Given the differences in the size of capital markets and the pace of reforms, only a few ASEAN countries, namely Malaysia, Singapore and Thailand, have moved to adopt the cross-listing of stocks through the ASEAN Trading Link.

In North and Central Asia, the parties of the Eurasian Economic Union are striving to create a common financial market in the banking, insurance and securities sectors by 2025. For that purpose, the Eurasian Economic Commission Board approved in November 2016 a draft decree on the development of the conceptual framework for the creation of the common financial market of the Eurasian Economic Union.[49]

In South Asia, the South Asian Federation of Exchanges was established in 2000 to facilitate the exchange of information and promote cooperation among its members in their efforts to develop capital markets and common standards for listing, trading and clearing settlement for securities and providing investor protection. In the Pacific islands, capital market development is very limited. In 2000, the Suva Stock Exchange was renamed the South Pacific Stock Exchange and an electronic trading platform was launched, with a view to becoming a regional exchange.

Capital controls and lack of foreign exchange hedging instruments is another area that requires work as part of the process to develop financial markets in the region. Although progressive capital account liberalization has led to greater market access to foreign investors, in several countries, non-residents are not permitted to hold and trade domestic securities. For example, India has restrictions on foreign investment in rupee-denominated bonds, and in Thailand, foreign entities are only allowed to issue baht-denominated bonds on the condition that they keep the proceeds in baht and use them in the country.[50]

To enable larger international allocations from institutional investors, hedging instruments, such as interest and currency swaps, are needed. Initiatives for that purpose have already been launched. For example, the Reserve Bank of India has been working with the Securities and Exchange Board of India to allow non-resident institutional investors to hedge currency risk with exchange-traded currency futures. At the international level, the Currency Exchange Fund was created to provide hedging against currency and interest rate mismatches in frontier and less liquid emerging markets. Its services cover more than 70 currencies, including 17 in Asia. However, the cost of these hedging instruments can be prohibitive, especially for illiquid and underdeveloped markets. Given the importance of hedging instruments, efforts need to be directed towards developing regional derivative markets, especially to cover the currencies of underdeveloped countries in the region.

4.4. Promoting financial inclusion

Financial inclusion, or the expansion of financial services for all, is reflected in various targets of the 2030 Agenda for Sustainable Development, including the empowerment of women (target 5.a), strengthening of the capacity of domestic financial institutions (target 8.10), and fostering the development of productive capacities through the provision of affordable and stable access to credit to micro, small and medium-sized enterprises (target 9.3). In addition, the Addis Ababa Action Agenda calls for countries to implement broad strategies to enhance financial inclusion, commits to strengthening capacity development for developing countries, and calls for an expansion of peer learning and experience-sharing among countries and regions.

An important goal of financial inclusion is to enhance access of small and medium-size enterprises (SMEs) to credit. SMEs constitute the largest number of companies in any country and play a fundamental role in the creation of employment, the development of skills, and the diffusion of technological knowledge. Past studies have also shown that financial access helps generate more new firms, which are generally vibrant and creative. However, to fulfil their potential, SMEs need to overcome an important obstacle: their

[49] Eurasian Development Bank, *Eurasian Economic Integration 2017* (Saint Petersburg, 2017). Available from http://greater-europe.org/wp-content/uploads/2017/06/edb-centre_2017_report-43_eei_eng.pdf.

[50] Ila Patnaik and others, "Foreign investment in the Indian Government bond market", NIPFP Working Paper, No. 126 (New Delhi, National Institute of Public Finance and Policy, 2013). Available from www.nipfp.org.in/publications/working-papers/1691/.

lack of adequate access to credit and financial services. An important reason for this is that financial institutions, particularly commercial banks, often view loans to SMEs as too risky and involving very high transaction costs.

In addition to commercial banks, microfinance institutions (MFIs), which include not-for-profit organizations and NGOs, self-help groups, inclusive businesses and social enterprises, provide a wide range of financial services to the poor and to micro, small and start-up enterprises. Pioneered by the Grameen Bank in Bangladesh, MFIs have employed innovative solutions such as a shared liability model and collateral-free lending, which resulted in very low default rates. In recent years, however, some microfinance markets have become saturated, with borrowers becoming over-indebted by taking on too much credit from multiple MFIs and other informal sources of credit. This highlights the importance of establishing effective regulations for MFIs.

To further expand lending to SMEs by private financial institutions, countries' lending infrastructure, which includes credit bureaus, credit guarantees agencies and collateral registries need to be improved. National development banks can also play a key role in providing financing to SMEs in specific sectors of strategic importance through innovative products, such as growth acceleration programmes. In addition, new companies that provide financial services by making use of software of modern technology, known as fintechs, offer exciting possibilities for meeting the financial needs of SMEs.

However, a too rapid expansion of credit to SMEs entails potential risks to financial stability. Risks include excessive indebtedness of low-income borrowers, illegal deposit mobilization, fraud, high transaction costs, and exploitation of customers. To prevent these risks, it is important to develop appropriate supervision and regulatory frameworks. It is also important to extend financial education to new users of financial services, to strengthen consumer protection regimes, and to ensure that financial transactions take place in a timely and secure manner. All in all, the main challenge for policy makers and regulators in enhancing access of SMEs to finance is how to strike the right balance between facilitating innovation and preserving financial stability.

4.5. Infrastructure financing requirements and potential sources

The 2030 Agenda puts infrastructure development at its core with at least 12 of the 17 Sustainable Development Goals having a direct infrastructure link. However, infrastructure financing requirements for new investments and for upgrading the existing stock are substantial. The Asian Development Bank estimates that the region will need to invest $26.2 trillion from 2016 to 2030, or $1.7 trillion per year, to meet its infrastructure needs. This amount includes $3.4 trillion to respond to climate change. The total amount is distributed as follows: $14.7 trillion for power, $8.4 trillion for transport, $2.3 trillion for telecommunications and $800 billion for water and sanitation.[51] For countries other than China, the Asian Development Bank estimates the infrastructure investment gap – the difference between investment needs and current investment levels – at 5 per cent of their projected GDP over the period 2016-2020.[52] These requirements may even be larger if the cost of regional infrastructure connectivity and the growing urban population's demands are factored in properly. At the same time, keeping in view the essence of the 2030 Agenda, infrastructure development needs to be inclusive, climate friendly and resilient.

To close the infrastructure investment gap, governments need to find appropriate sources of funding and financing.[53] Regarding funding, the basic options are (a) through national, state or local budgets; (b) to be paid for by consumers through a stream of user charges; (c) through external grants by donor agencies or private corporations, though this is usually a limited source; and (d) through commercial revenue generated from a public asset, such as real estate development.

[51] Asian Development Bank, Meeting Asia's Infrastructure Needs (Manila, 2017). Available from www.adb.org/sites/default/files/publication/227496/special-report-infrastructure.pdf.

[52] *Ibid*. The calculations to obtain these estimates were based on 25 developing countries for which adequate data were available, namely Afghanistan, Armenia, Bangladesh, Bhutan, Cambodia, China, Fiji, India, Indonesia, Kazakhstan, Kiribati, Kyrgyzstan, Malaysia, Maldives, Marshall Islands, the Federated States of Micronesia, Mongolia, Myanmar, Nepal, Pakistan, Papua New Guinea, the Philippines, Sri Lanka, Thailand and Viet Nam.

[53] Funding refers to who is paying for the infrastructure services while financing involves the repayment of the capital or money invested, often with interest.

Regarding funding through government budgets, policymakers can significantly increase the resources available to fund infrastructure by increasing the tax base, raising tax rates for higher-income brackets and improving compliance. For most countries in the region, improving compliance is the highest priority. In addition, improving expenditure management, for instance by curbing non-developmental expenditures, such as across-the-board subsidies, could free up vital resources. Improving the efficiency of public spending in infrastructure could also lead to significant savings. This could be achieved by enhancing project selection, ensuring adequate maintenance, reforming State-owned enterprises and optimizing the use of infrastructure assets.

In many economies in the region, the proportion of infrastructure financed by the public sector is about 80 per cent. The rest is covered by the private sector with a very small percentage provided by official development agencies.[54] However, heavy reliance on public financing of infrastructure is problematic for governments facing fiscal constraints and an unsustainable debt position.

Infrastructure financing requires the availability of foreign and local currencies for long periods of time. As such, the development of bond and equity markets and the domestic institutional investor sector is crucial. However, this will take time. Most developing countries in the region are characterized by having shallow financial markets, uncertain macroeconomic policy and regulatory environments and a lack of viable project pipelines, and are facing challenges in their efforts to improve the process of project selection, all of which are making it difficult to raise resources in financial markets to finance their infrastructure development.

The main source of financing in the region has been loans from commercial banks, multilateral development banks and other financial institutions. New regional development banks, such as the Asian Infrastructure Investment Bank, have increased the pool of available resources for infrastructure financing. However, credit, country and project exposure limits often pose problems for the financing of large projects.

Governments usually involve the private sector through public-private partnerships to circumvent limited public budgets and borrowing capacity. Over the last 15 years, private companies have invested about $650 billion in Asian developing countries; 54 per cent went to projects related to energy, 33 per cent to projects related to transport, 10 per cent to projects related to ICT and 3 per cent to projects related to water and sewerage. (See figure 4.2, left panel) However, their distribution has been very uneven, and for small developing countries, financing infrastructure investment through public-private partnerships is still a challenge. Indeed, 75 per cent of the region's public-private partnerships investment was concentrated in five major countries: China, India, Indonesia, the Russian Federation and Turkey (see figure 4.2, right panel).

It is also important to keep in mind that the private cost of capital is usually more expensive than public financing, as the private sector requires returns commensurate to the risk taken. As a result, private partners in public-private partnership projects often require credit enhancement mechanisms and/or guarantees to cover political and economic risks. Public-private partnership projects need to create sufficient additional value to offset the higher financing and transaction costs. A related point is that public-private partnerships are most promising as a source of financing in revenue-generating sectors, such as energy or transport, from which user charges can be used to repay the investment.

Whereas public-private partnerships cannot fill all infrastructure gaps, this mechanism may contribute to a significant share of infrastructure investments. For example, the private sector has financed about 50 per cent of investment in power generation assets in South-East Asia over the period 2000-2013.[55] Similarly, in transport, the private sector contribution accounted for an impressive 34 per cent of total investment in roads and highways in India in the eleventh five-year plan (2007-2012).[56]

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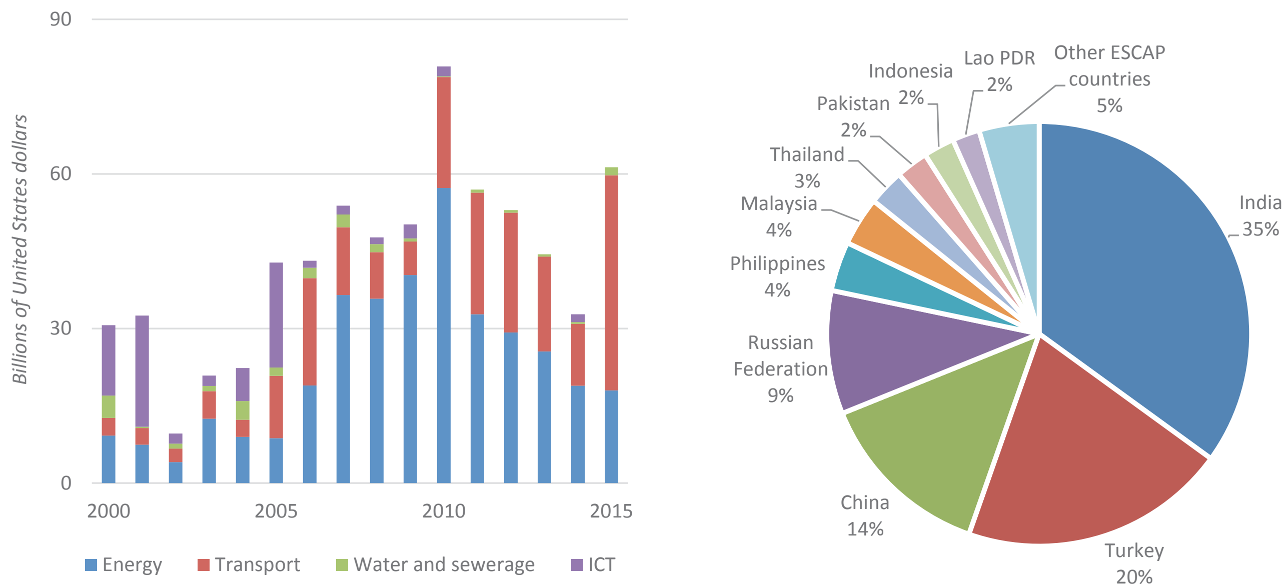
[54] Georg Inderst, "Infrastructure investment, private finance and institutional investors: Asia from a global perspective"; ADBI Working Paper Series, No. 555 (Tokyo, Asian Development Bank Institute, 2016). Available from www.adb.org/publications/infrastructure-investment-private-finance-and-institutional-investors-asia-global.

[55] For historical investment data, see annex of International Energy Agency, *World Energy Investment Outlook* (Paris, 2014). For private investments, see World Bank, Private participation in infrastructure database. Available from https://ppi.worldbank.org/ (accessed on 10 November 2016).

[56] PricewaterhouseCoopers Private Limited, *The Road Ahead: Highways PPP in India* (n.p., 2012).

FIGURE 4.2. Public-private partnerships in Asia and the Pacific



Source: ESCAP based on data from World Bank. Private Participation in Infrastructure Database. 2016. Available from https://ppi.worldbank.org/ (accessed 10 November 2016).

Note: Right panel data refer to 2015.

In addition, public-private partnerships are not just about financing. Other benefits that make this mechanism an attractive option are efficiency gains, risk transfers and life-cycle cost optimization.

Given the importance of infrastructure financing, efforts to encourage regional cooperation in this area need to be intensified. In that regard, ESCAP has played a pioneering role in the formulation of regional transport networks, such as the Asian Highway and the Trans-Asian Railway networks, which have supported countries' prioritization and planning of national transport projects. These efforts are commendable and need to be pursued in other infrastructure sectors, as they provide coherence within the region and help potential investors better understand the broader context of national infrastructure projects. Other useful areas for regional cooperation are the dissemination of best practices and the incorporation of sustainability considerations into public-private partnership schemes.

4.6. Domestic public resource mobilization

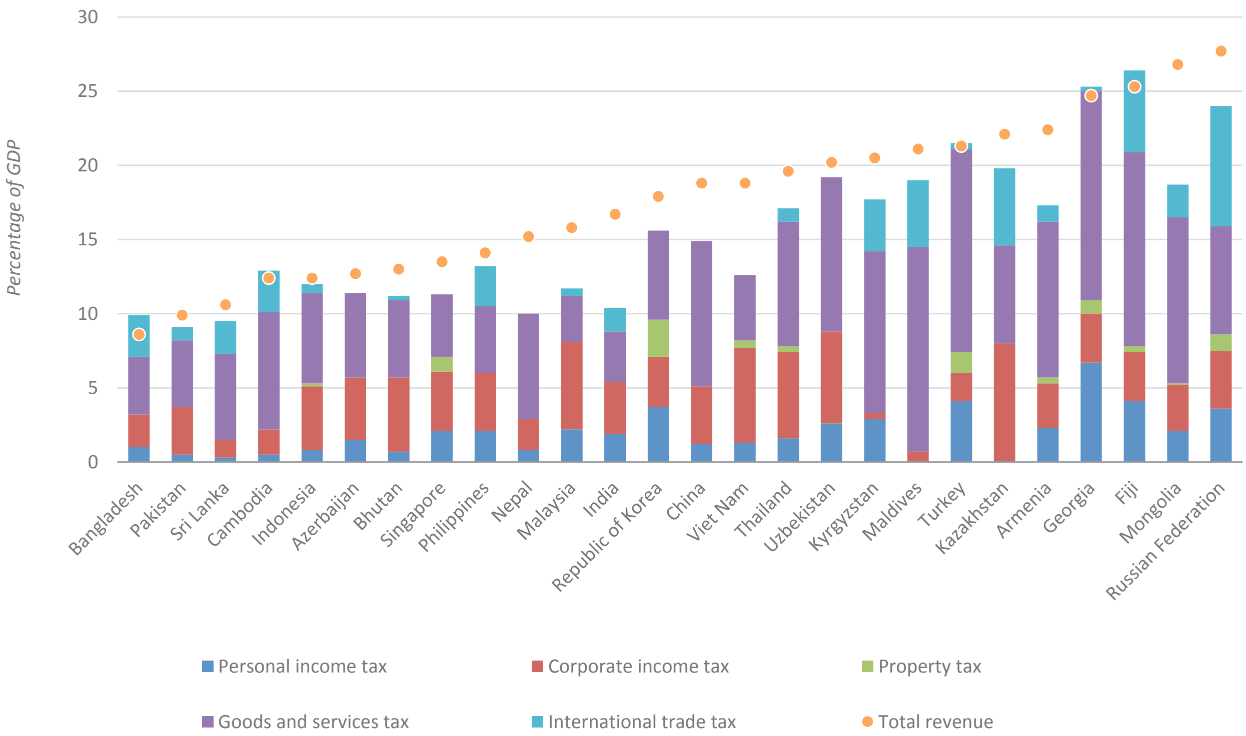
In the light of the difficulties in raising private funding for infrastructure financing and considering the strong demand for public funding to implement the 2030 Agenda in general, the mobilization of additional domestic public resources is essential. However, this will be challenging in Asia and the Pacific, as the region has one of the world's lowest tax revenue levels. In recent years, total tax revenue averaged 17.6 per cent of GDP in the region, compared to the global average of 21.3 per cent for developing countries and of 26.4 per cent for developed countries.[57,58] This level only surpasses those for the Middle East and North Africa, where non-tax resource revenue has more than compensated for low tax revenue.

The region's average conceals the vast differences among countries. The regional average comes down to only 15.6 per cent if developed countries and the Central Asia subregion are excluded. Figure 4.3 shows

[57] Three years average between 2012 and 2014, or the latest three years, in which data are available.

[58] The figure excludes social contribution, which is normally considered to be part of the overall tax revenue in the Organization for Economic Cooperation and Development (OECD) countries. Given that social contribution levels in the Asia-Pacific developing countries are significantly lower, separating the social contribution level from taxes would make it possible to better evaluate the tax performance of the countries.

FIGURE 4.3. Tax composition and revenues in selected Asia Pacific countries (percentage of gross domestic product)



Source: ESCAP based on data from International Monetary Fund, Government Financial Statistics database. Available from www.imf.org/ (accessed 10 July 2017).

Notes: 2014 or latest available year. Differences between the "total" and the sum may arise from gaps in data and definitional issues. For instance, countries, such as India and Viet Nam, impose various goods and sales taxes in addition to standard VAT, as well as excise taxes that are not captured under "indirect tax".

that for 22 of 26 developing Asia-Pacific countries, the tax-to-GDP ratio is less than 20 per cent. In addition, the tax mix in the Asia-Pacific region is biased towards indirect taxes. Direct taxes account for only 37.6 per cent of the total tax revenue in the region, compared to 55.8 per cent for OECD countries. This difference is not surprising because indirect taxes, such as value-added tax or excise taxes, typically pose smaller tax administration challenges for developing countries compared to direct taxes. However, this is not entirely desirable because indirect taxes tend to be more regressive.

At the same time, the mobilization of public revenue, especially taxation, is increasingly becoming a cross-border issue in line with the gradual deepening of regional economic integration and globalization. The misuse of tax treaties and tax heavens along with trade-based tax evasion and fraud are becoming significant drains on public revenue for all countries. The OECD estimates that the global revenue losses from such activities are between $100 billion and $240 billion annually.[59]

The greater cross-border mobility of capital and production also creates strong tax competition among countries to attract foreign investment and penetrate export markets, especially in developing countries where costly tax incentives are often provided to compensate for weak market institutions and an unfavourable business environment. Data show that tax incentives are generally more prevalent in the Asia-Pacific region than in other regions.

Corporate income taxes have also come under pressure. While declining corporate tax rates is a worldwide phenomenon, the problem seems to be exacerbated in Asia and the Pacific as countries expand tax incentives and cut rates to attract foreign

[59] See www.oecd.org/tax/beps/.

investment. Unlike in other regions, corporate tax reform in Asia and the Pacific has been rate-reducing and base-reducing. A study based on 14 Asia-Pacific countries has found support for the hypothesis that countries in the region compete in setting their corporate tax rates. A recent KPMG study has warned that the paucity of coordination and harmonization on tax matters in the ASEAN region, especially in the light of the ASEAN Economic Community, could result in continued tax competition, which would have adverse effects on tax bases in the region.

For all the challenges emanating from the internationalization of taxation, effective regional and global tax cooperation and joint actions by stakeholders are a precondition for any viable solution. Cooperation can also be an important catalyst for national efforts to enhance public revenue mobilization and deploy conducive tax and spending policies through broad knowledge exchange, policy debate, peer learning, and targeted technical assistance and capacity-building activities.

An emerging area that is highly relevant for the financing of the 2030 Agenda is related to the implications of the region's very rapid urbanization. The unprecedented growth and dominance of megacities in the Asia-Pacific region have put enormous fiscal pressure on governments, especially municipal governments. Sustainable urbanization requires public investments in urban infrastructure and public services in the scale of trillions of dollars, yet the municipal governments in the region are often ill-equipped to meet the challenge. Almost all Asian countries suffer from serious vertical imbalances, with subnational governments' expenditure far exceeding their revenue. As a result, many cities in the region are rapidly accumulating debt, which, in turn, is threatening to destabilize the whole financial system.

Property taxes often fund the bulk of expenditures of municipal governments in developed countries. In developing countries, however, municipal governments are able to tap only a fraction of the potential of property taxes because of capacity and institutional constraints, a weak tax culture and lack of mature property registration systems. As a result, Asia-Pacific cities need to develop a diversified mix of revenue mobilization vehicles that includes not only property taxes but also local business or income taxes, service charges and innovative solutions such as land value capture and transport and fuel taxes. Providing greater policy space for municipal governments in local fiscal governance while enhancing their accountability on this front is a desirable direction moving forward.

Against this background, tax cooperation at global and regional levels has been gaining momentum. At the global level, the signatories of the Addis Ababa Action Agenda committed to scale up international tax cooperation efforts. They also welcomed new initiatives by international organizations and country groupings to combat cross-border tax evasion, improve the transparency of international taxation and enhance policy coordination across countries.

At the regional level, Latin America, Africa and Europe have been at the forefront in the areas of regional tax policy coordination, knowledge exchange and capacity support through region-wide tax cooperation organizations, such as the African Tax Administration Forum, the Inter-American Center of Tax Administrations and the Intra-European Organisation of Tax Administrations. These organizations not only provide a central platform for regional tax cooperation but they also play a significant role in supporting their respective regions' engagements in international tax cooperation and reforms through coordinated regional positions and inputs and targeted implementation support that considers the local context.

In contrast, the Asia-Pacific region still lacks a broad-based region-wide platform for cooperation on tax and public finance issues. While certain relatively successful sub regional forums, such as the Study Group on Asian Tax Administration and Research and the Pacific Islands Tax Administrators Association, have been established, their coverage and capacities remain limited, and the region's least developed and smaller developing economies are not adequately represented in global and regional tax cooperation mechanisms.

Limited inclusive and region-wide cooperation and capacity support have prevented Asia and the Pacific from engaging proactively and making substantial contributions to the ongoing global tax cooperation and reform initiatives. Compared to other developing regions with broader-based, more institutionalized and better financed region-wide forums, Asia and the Pacific, especially the region's developing countries that are not part of the OECD or the Group of 20, has largely remained passive in international tax norm-setting processes and negotiations. With regard to those negotiations, for the most part, they have lacked a united voice and opportunities to provide well-developed regional inputs.

4.7. Way forward

Considering the analysis contained in the previous sections, in this concluding section, suggestions for deepening regional financial cooperation are provided, so that it can better support the implementation of the 2030 Agenda.

Financial stability

Existing regional financial safety nets, which offer short-term liquidity over and above the IMF emergency lending programmes, are useful for managing risks arising from increasing financial market and capital flow volatility. The following elements can be considered to assess the efficacy of these facilities:

- These facilities need to be operationally flexible and able to safeguard short-term risks associated with volatility in financial markets or capital flows, along with significant fluctuations in exchange rates;
- The existing facilities should be backed by a robust framework of regional surveillance supported by regionally harmonized and enforceable macroprudential policy frameworks;
- Efforts should be made to gradually reduce the current fragmentation of subregional facilities and frameworks and cross-country procedural differences and move towards a region-wide crisis management framework as a long-term goal;
- The ability of subregional surveillance and coordination mechanisms, such as the Chiang Mai Initiative Multilateralization, should be strengthened to supplement existing IMF emergency support programmes. For this purpose, there is need in the region to develop capacities to formulate and monitor conditionality associated with emergency lending.

Capital market cooperation

Because of the inadequate development of capital markets, a large share of the region's savings is channelled to more mature economies outside the region. To retain such funds within the region, domestic financial markets and institutions need to be developed further.[60] For this purpose, the demand and supply sides of capital markets need to be strengthened by developing a diverse issuer and investor base. In that context, it is important to foster the development of domestic institutional investors with long-time horizons, such as insurance companies, pension funds and asset management companies.

Similarly, it is important to further develop national financial market infrastructures, including the regulation of the issuing and trading bonds and securities, payment systems, central securities depositories and cross-border clearing and settlement systems. A well-functioning financial infrastructure is essential for trades to be executed rapidly and safely, thereby contributing to the liquidity of the market. It also contributes to building confidence among issuers and investors in the integrity and fairness of the price discovery process, which are essential for encouraging their participation in the market.

In addition, different standards and requirements may prevent investors from credibly assessing investment opportunities across multiple countries. Therefore, effective partnership with international financial and securities regulators to streamline relevant financial regulations and improving corporate governance are needed to facilitate the trading of securities across countries, laying the groundwork for the development of a regional financial market at a later stage. Mutual recognition agreements could also play a useful role for that purpose.

Most economies in the region – except for Japan; Republic of Korea; Singapore; and Hong Kong, China – impose foreign exchange restrictions, which serve as an obstacle to deepening regional financial integration. While such restrictions may help to mitigate vulnerabilities stemming from capital outflows, they can have adverse implications on the levels of investments by non-resident institutional investors and cross-border transactions. Capital account liberalization, therefore, must proceed gradually and be supported by the development of appropriate macroprudential policies to preserve financial stability amid increasing volumes of cross-border transactions.

Financial inclusion

Enhancing access to financial services is important to reduce poverty and promote economic growth and employment generation through the dynamism of small and medium-sized enterprises.

[60] See annex III for further discussion and ideas.

In this regard, fintech companies have enormous potential to enhance financial inclusion. However, there are potential risks to financial stability that can arise if the expansion in the access to credit in the economy occurs too rapidly. Risks include excessive indebtedness of low-income borrowers, fraud, high transaction costs and exploitation of customers.

To mitigate those risks, appropriate supervision and regulatory frameworks must be developed to support the extension of financial inclusion. In this regard, a proportionate approach to regulation, which adjusts prudential norms according to the risk profile and systemic importance of individual banks and microfinance institutions, should be considered. In addition, it is important to support the building of capacities of countries in setting and implementing appropriate regulations for promoting financial inclusion. ESCAP, as an intergovernmental platform covering the entire region, could play a significant role for this purpose.

It is also important to extend financial education to inexperienced users of financial services and to strengthen consumer protection regimes and build a stronger financial infrastructure to ensure that financial transactions take place in a timely and secure manner.

Financing infrastructure development

Given the scale of infrastructure investment requirements, financing sources, in addition to the public sector, need to be identified. While the banking sector has traditionally played a major financing role, capital markets should complement these resources by providing an alternative intermediation mechanism between investors and project developers. To better understand how the capital market can most effectively support infrastructure development in the region, it is necessary to conduct national and regional studies that take into account the international experience and the diverse characteristics of Asia-Pacific countries.

In addition, the process for selecting infrastructure projects must be improved so that funding is prioritized for projects that will make the most contributions to the implementation of the 2030 Agenda by ensuring that infrastructure development is inclusive, climate-friendly and resilient. For this purpose, a regional viewpoint and a multi-sectoral focus are necessary. A regional viewpoint would consider each project in the context of the development needs of the region. A multi-sectoral approach would carefully weigh the economic, social and environmental gains and losses of each project to select those that bring the most benefits to the three dimensions of sustainable development.

Cross-border projects often receive a lower priority than national ones because the latter have a lower risk profile and a shorter gestation time. They are, however, critical for achieving regional connectivity. Setting up dedicated financing mechanisms for these projects could help to raise their priority level while serving as a coordination platform among the involved countries. These mechanisms could take different forms, such as a project preparation facility exclusively for cross-border projects or loan-grant blending instruments to improve their financial viability.

To circumvent limited public budgets and borrowing capacities, governments could also consider involving the private sector through public-private partnerships and develop coherent and coordinated financing strategies to close infrastructure financing gaps. To engage the private sector, governments need to create an enabling environment characterized by, among other things, coherent policies, explicit priorities and expected timelines for projects to be developed, and a clear legal and regulatory framework. In this context, it is important to ensure that risks are properly allocated between public and private partners.

Domestic resource mobilization

Because of the generally low tax-to-GDP ratios in the region, there is considerable scope to enhance domestic resource mobilization. For that purpose, Asia and the Pacific needs to develop a regional approach and vision about public finance strategies and policies. This calls for the rethinking and recalibration of existing policies and practices associated with sustainable development principles and keeping in view the region’s challenges and priorities, such as rapid urbanization and widening inequality. Moreover, the vision should leverage on the region’s own policy lessons and experiences and consider the local institutional, cultural and historical context. Such an approach would also support national efforts to enhance public revenue and to implement suitable tax and spending policies for sustainable development.

To address the regional challenges to enhance domestic resource mobilization as a means of implementation of the 2030 Agenda, there is need for a broad-based discussion among policymakers, tax administrators and relevant regional and subregional organizations in the Asia-Pacific region. In that regard, ESCAP can leverage its intergovernmental mechanisms, including the Committee on Macroeconomic Policy, Poverty Reduction and Financing for Development, in close collaboration with development partners. It is also important to facilitate the exchange of knowledge and policy lessons and experiences, and coordinate capacity-building initiatives in the following areas:

- Tax and public expenditure policies for inclusive and sustainable development;
- International tax reforms and their implications for developing countries in the region;
- Specific local challenges, such as municipal public finance for urbanization;
- Cross-cutting issues, such as social contracts for responsible and efficient public spending and taxpayer consent for sustainable revenue mobilization.

CHAPTER V

ADDRESSING SHARED VULNERABILITIES AND RISKS IN ASIA AND THE PACIFIC

Despite the diversity among Asia-Pacific countries in terms of population, socioeconomic development and geography, many share vulnerabilities and risks. Among them are transboundary natural disasters, scarcity of natural resources, food security and climate change. Shared vulnerabilities and risks to socioeconomic development and environmental sustainability have been heightened with the increased interdependences among countries that regional integration brings. In this context, it is essential to recognize the value of regional cooperation mechanisms, and to realize their implementation, which includes sharing of best practices, experiences and expertise.

Disaster risk reduction is a cross-cutting issue that is interlinked with several of the Sustainable Development Goals. It is directly relevant for achieving the specific targets of ending poverty in all its forms everywhere (Goal 1) and making cities and human settlements inclusive, safe, resilient and sustainable (Goal 11), while building resilience is mainstreamed in many sector-related Goals, such as Goal 2 on agriculture and Goal 9 on resilient infrastructure. Goal 12 focuses on sustainable consumption and production, targeting resource efficiency, while Goal 2 is about ending hunger, achieving food security and adequate nutrition for all, and promoting sustainable and resilient agriculture. Goal 13, on climate mitigation and adaptation, includes the need to strengthen resilience and adaptive capacity to climate-related hazards and natural disasters.

5.1. Natural disasters and shared vulnerabilities

Many countries in Asia and the Pacific share vulnerabilities to environmental and disaster risks, arising, for instance, from seismically active fault lines that cross many national borders, ocean basins that experience frequent cyclones, and many river basins with flooding history and potential.

Over 6.5 billion people have been affected by natural disasters in the Asia-Pacific region since 1970. By comparison, the rest of the world, where around 40 per cent of the global population live, housed only 12 per cent of the total global affected population.[61] Since 1970, 88 per cent of the total affected persons worldwide have been in the Asia-Pacific region, which has also suffered much higher economic damage as a percentage of GDP than the rest of the world combined.[62] Since 2005, economic damage caused by disasters in the region has amounted to $523 billion, or 45 per cent of the global total, and eight of the ten largest disasters in terms of fatalities and four of the ten largest in terms of overall economic damage occurred in the region.[63] Economic losses are higher if lost income, increased cost of production and other financial losses suffered by businesses and households as a result of damages to assets and economic activity are taken into account (figure 5.1).[64]

Disaster risks are increasing in urban areas. Cities, especially those with large and growing populations, stressed environments and inadequate infrastructure, are highly vulnerable to natural disasters. The area subject to urban disaster risk is increasing, not only because of the rapid growth

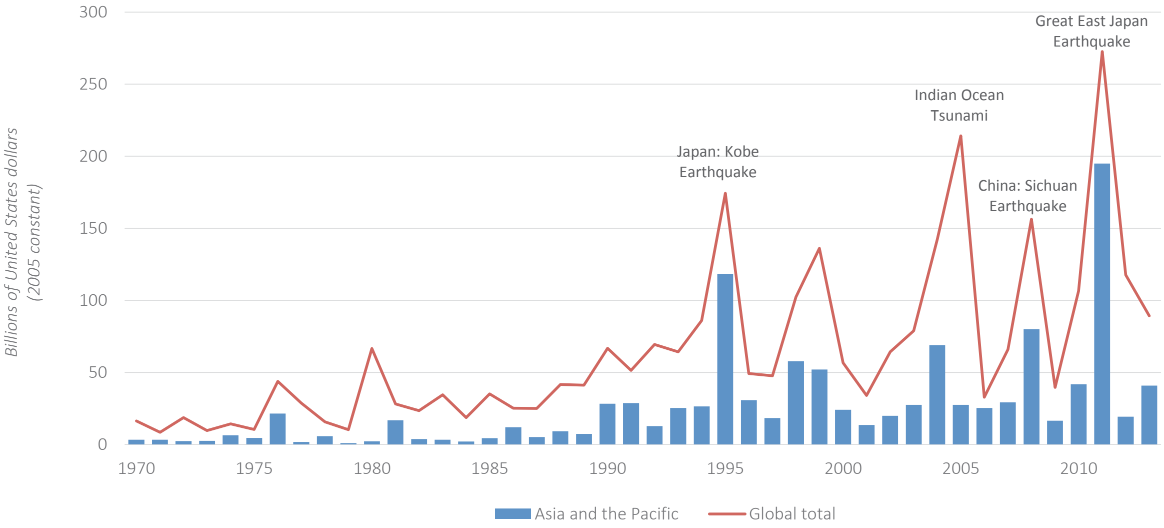
[61] *Asia-Pacific Disaster Report 2017* (United Nations publication, forthcoming).

[62] EM-DAT: The OFDA/CRED International Disaster Database. Available from www.emdat.be (accessed on 14 February 2017).

[63] *Asia-Pacific Disaster Report 2015: Disasters without Borders – Regional Resilience for Sustainable Development* (United Nations publication, Sales No. E.15.II.F.13). Available from www.unescap.org/publications/asia-pacific-disaster-report-2015.

[64] These include the 2004 Indian Ocean tsunami, the 2005 Kashmir earthquake, Cyclone Nargis in 2008, the 2008 Sichuan earthquake and the 2011 great east Japan earthquake.

FIGURE 5.1. Rising economic damages, 1970-2015



Source: GDP data from ESCAP Statistical Online Database (available from http://data.unescap.org/escap_stat; accessed February 2017); economic damage data from EM DAT: The OFDA/CRED International Disaster Database (available from www.emdat.be/; accessed February 2017).

in the urban population, but also because of other contributing factors, such as the gradual erosion of ecological buffers. As cities are the centres of economic growth and account for large shares of GDP, this heightens the risks to national economies.

While floods and storms, followed by earthquakes, are the most frequent disasters in Asia and the Pacific, the region is also affected by multiple smaller-scale but recurring events, also known as extensive risks (high-frequency, low-severity events). Since 1970, 85 per cent of disasters in the region have been minor but recurrent. They have cumulatively affected 2.24 billion people and caused more than $400 billion of damage by triggering ongoing erosion of development assets, such as local infrastructure, dwellings, schools, health facilities and roads.

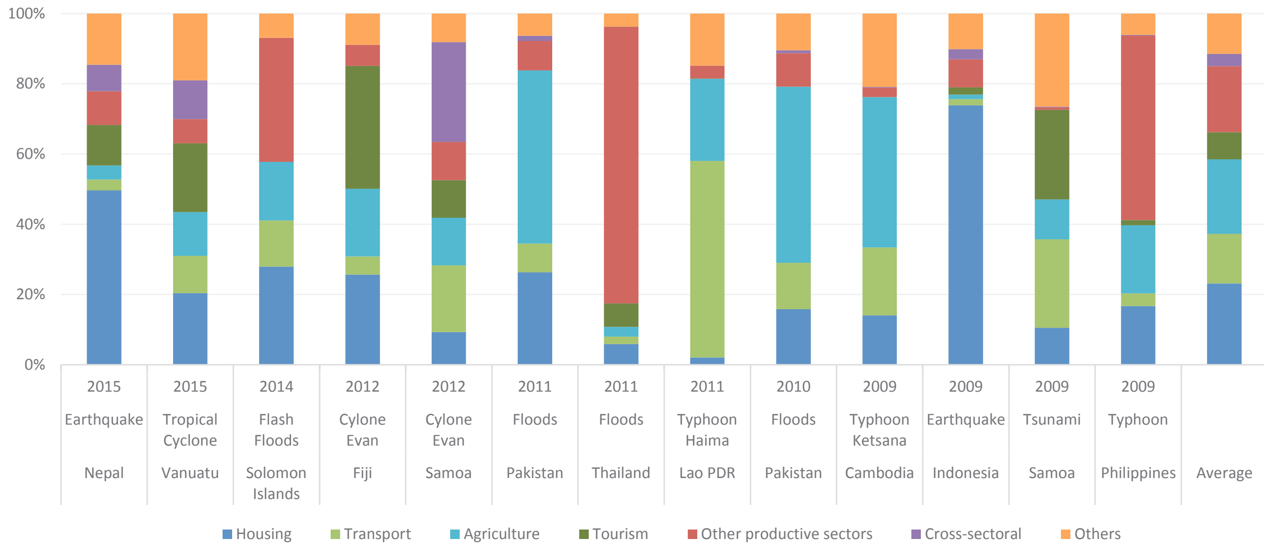
As extensive disaster risks are frequently associated with the ecological vulnerability of affected areas, more attention should be paid to these risks to ensure sustainable development in the Asia-Pacific region. While hazards and exposure dominate the risk equation for intensive risk, extensive risk is more closely associated with such factors as inequality and poverty. As extensive risks cause the majority of morbidity and losses in developing countries, they can undo years of development efforts by negatively affecting economic and social gains. Consequently, they represent a challenge to the achievement of the Sustainable Development Goals, especially in areas and regions with widespread poverty and high social inequality.[65]

In terms of the after-effects of disasters, houses and other major infrastructure are the development assets most seriously affected by earthquakes and floods. As indicated by figure II, the range of major floods, droughts, cyclones and typhoons in the region since 2009 have had the worst sectoral impact on the housing and agriculture sectors, resulting in 23 and 21 per cent of the total loss in these cases respectively. Comparatively, over the same period, major disasters in the Asia-Pacific region have resulted in losses of 14 per cent in the transport sector and 7 per cent in the tourism sector.

The losses related to agriculture are particularly concerning for many countries of the region as more than 30 per cent of the labour force in Bangladesh, Bhutan, Cambodia, India, Indonesia, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand and Viet Nam is employed in the farm sector. Thus, the damages and losses are often incurred by poor, small and marginal

[65] United Nations Office for Disaster Risk Reduction, *Global Assessment Report on Disaster Risk Reduction 2015: Making Development Sustainable – The Future of Disaster Risk Management* (Geneva, 2015). Available from www.unisdr.org/we/inform/gar.

FIGURE 5.2. Major disasters and sectoral impacts in Asia and the Pacific (percentage)



Source: *Asia-Pacific Disaster Report 2015: Disasters without Borders – Regional Resilience for Sustainable Development* (United Nations publication, Sales No. E.15.II.F.13).

Notes: "Others" refers to commerce, industry, mining and finance.

farmers and by semi-rural communities without insurance and lacking the financial resources needed to regain lost livelihoods.

While the damage and loss assessment figures discussed serve to underscore the severity of disaster impacts in the region, they nevertheless fail to consider long-term costs. This is particularly the case when considering the long-term costs of disasters for smaller economies that do not have well diversified economic structures and face macroeconomic instability. As regards less diversified economies, in a recent study it was highlighted that after disasters caused by cyclones, national incomes declined relative to their pre-disaster levels and did not recover within two decades.[66] The largest event in the sample led to a reduction in long-term GDP of almost 30 per cent, compared to a "no disaster" counterfactual. In the Pacific small island developing States, it was found that after major cyclones the GDP per capita was likely to lag behind the "no disaster" counterfactual for many years.

Beyond the long-term costs of disasters, another area of particular concern is the transboundary nature of their impacts, especially those of hydrometeorological origin that are linked with river and ocean basins, climate, weather and agroecosystems. For instance, in addition to numerous seasonal small-scale floods that affect the region every year, major floods have affected China, India, Pakistan and Thailand in the last decade, while snowmelt and glacial lake outburst floods in high mountains, combined with heavy monsoon rains, have led to flash floods and flooding in Kazakhstan, Pakistan and Tajikistan.

Several of those large-scale floods have been transboundary, flowing across countries that share river basins such as the Amu Darya, Amur, Brahmaputra-Meghna, Ganges, Indus, Mekong, Salween and Yenisey. Flooding in the Mekong river basin can affect downstream riparian countries: Cambodia, the Lao People's Democratic Republic, Thailand and Viet Nam. With about 70 per cent of the total global rice export trade originating in South-East Asia, floods have a significant impact on local

[66] Solomon M. Hsiang and Amir S. Jina, "The causal effect of environmental catastrophe on long-run economic growth: evidence from 6,700 cyclones", NBER Working Paper, No. 20352 (Cambridge, Massachusetts, National Bureau of Economic Research, 2014). Available from www.nber.org/papers/w20352.

and global food supplies. In such situations, effective supply-chain management becomes crucial to reduce shortages of rice and limit the increases in international prices.

In addition to flooding, the region is also highly vulnerable to droughts, which traverse river basins and large agroecological zones across national boundaries. Eighty per cent of the economic impacts of drought is shouldered by agriculture. Thus, prolonged droughts slow income growth in agriculture and in related agro-processing activities, with knock-on effects on employment and incomes in other parts of the rural economy.

Severe droughts can cause severe problems with respect to drinking water in arid and semi-arid areas, restrict municipal water withdrawals and lead to water scarcity and insecurity in both rural and urban areas. In extreme cases, drought has led to desertification, affecting approximately 1,400 million hectares of land across Asia, more than in any other region in the world.[67]

This has serious implications for future agricultural production, particularly for activities that require large volumes of water.

Storms also affect the region, with 50 to 60 of the annual average of 86 tropical cyclones occurring in three Asia-Pacific ocean basins whose coastlines are shared by multiple countries. With each cyclone able to traverse many countries, causing heavy rainfall and flooding until it finally makes landfall, the economic and social damages caused by these events are significant, as noted above.

In addition to the transboundary nature of major hazards, disaster risks are often shared through economic networks among countries. Increased cross-border flows of trade and investment raise the transmission possibility of disaster impacts to a much more extensive chain of countries. Furthermore, disasters in Asia and the Pacific can also affect the global economy by disrupting global production networks, given the strong participation by the region in those networks. For instance, Japanese automobile production was almost halved and electrical component production fell by 8.25 per cent because of the 2011 Tohoku earthquake and tsunami. Three months after the disaster, because of shortages in components, automobile production dropped by 20 per cent in Thailand, 24 per cent in the Philippines and 6 per cent in Indonesia.[68] These shared vulnerabilities and risks have undermined the potential of the region to achieve sustainable development. Driven partly by climate variability and climate change, significant changes are observed in the intensity, frequency and geographic location of the hazards as well as in the complexity of the transboundary origins and impacts of disasters.

5.2. Climate change and shared vulnerabilities

Climate change has exacerbated the intensity and incidence of hazards in many parts of the region. As climate change has transboundary and multisectoral impacts, the response to climate change has a strong interlinkage with regional economic cooperation and integration. The risks of disasters and climate change should be considered in the development of infrastructure in the region, including in cross-border infrastructure.

Climate change is a critical threat to the collective survival of small island developing States. Given that more than 99 per cent of their sovereign territories is located in the ocean, and that most of the islands' inhabitants are concentrated in coastal or low-lying areas, Pacific countries are among the most exposed and vulnerable in the world to climate change. A sea-level rise of half a metre, along with natural sea-level variation and more frequent and severe storm surges, will result in serious coastal inundation, threatening the livelihoods, infrastructure, health, food, water and physical security of communities.

Apart from extreme weather events, climate change is also adding to pressure on fragile island systems by increasing average ocean and land temperatures, changes to the seasonality and the duration of rainfall.[69] For atoll States such as Kiribati, the Marshall Islands and Tuvalu, which are less than one metre above sea level in most places, the threat is existential. [70]

[67] *Asia-Pacific Disaster Report 2015*, p. 51.

[68] *Building Resilience to Natural Disasters and Major Economic Crises* (United Nations publication, Sales No. E.13.II.F.3). Available from www.unescap.org/sites/default/files/ThemeStudy2013-full2.pdf.

[69] Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report* (Geneva, 2015). Available from www.ipcc.ch/report/ar5/syr/.

With the acceleration of the consequences of climate change and the concomitant increase in disaster risks, Pacific island countries face development challenges that are large and difficult to tackle by themselves. Natural disasters, particularly tropical cyclones, cause major disruptions and put enormous pressure on Governments to reconstruct and source the required finance. Identifying ways to manage risks and create opportunities to share or transfer disaster contingencies is thus essential.

One of the best resources with which to address disaster and climate risks is a healthy natural environment supported by robust ecosystems. Unfortunately, much of this protection has been weakened by human-induced environmental degradation in the region. Disasters can then further damage the environment, raising the prospect of a downward spiral. Indeed, according to the Global Land Degradation Information System of the Food and Agriculture Organization of the United Nations (FAO), the ecosystems of 32 Asia-Pacific countries are experiencing medium to strong degradation, which can exacerbate the impact of natural hazards, affecting their magnitude, frequency and timing.

5.3. Food security and shared vulnerabilities

Over the last fifty years, the Asia-Pacific region has made tremendous progress in reducing the proportion of undernourished people and achieving food security. The region as a whole has halved the prevalence of undernourishment, or the proportion of the population below the minimum level of dietary energy consumption, from 23 per cent in 1991 to 12 per cent in 2015.[71] Despite this progress, the region still faces persistent poverty and hunger, and remains home to approximately 65 per cent of people suffering from hunger worldwide.

The main obstacle to overcoming hunger is not an overall lack of food, but limited access to enough food. Many factors affect such access, including poverty, natural disasters, conflict and war, poor access to resources, lack of employment opportunities, lack of education, underinvestment in agriculture and instability in the world food and financial systems. Given that countries in the region share many resources critical to the production and distribution of food, food security also has strong regional dimensions. Food insecurity is a result of many factors, including supply-side constraints, inadequate demand because of poor income and inability to physically access food because of remoteness. Analyses of the average dietary energy supply adequacy ratio also reveal that factors causing food insecurity across countries and regions vary significantly. They include rigid food-trading regimes, inadequate domestic production, extremely high food waste throughout value chains and seemingly high food-stockpiling, which reduces food available for human consumption.[72]

Inter-seasonal and annual food production variability continues to be a major factor that affects the localized food insecurity of a large group of households in the majority of countries in Asia and the Pacific. Droughts, floods, excessive snowfall and other natural disasters precipitate these production shortfalls.

Weather and climate anomalies, such as those triggered by the El Niño phenomenon, have exacerbated food production shortfalls. As such, regional multi-hazard monitoring and early warning have the potential to play a key role in preparing key stakeholders for and building their resilience to extreme weather events and natural disasters.

Further to this, rapid economic growth in Asia and the Pacific has put greater pressure on natural resources. With limited per capita endowments, the region is particularly vulnerable to disruptions associated with volatile energy and resource prices, land use changes and climate change. Notably, these disruptions are becoming increasingly interconnected. The increasing use of natural resources at a rapid rate, generation of pollution and waste and ecosystem degradation could push countries in the region towards a catastrophic ecosystem collapse. Though natural systems have large absorption capacities, once tipping points are reached, they may suddenly crash, with devastating

[70] Organization for Economic Cooperation and Development and World Bank, *Climate and Disaster Resilience Financing in Small Island Developing States* (Washington, D.C., World Bank, 2016). Available from www.oecd-ilibrary.org/development/climate-and-disaster-resilience-financing-in-small-island-developing-states_9789264266919-en.

[71] ESCAP, Asian Development Bank and United Nations Development Programme, *Asia-Pacific Sustainable Development Goals Outlook* (Bangkok, 2017).

[72] FAO, International Fund for Agricultural Development and World Food Programme, *The State of Food Insecurity in the World 2013: The Multiple Dimensions of Food Security* (Rome, FAO, 2013).

consequences for other economic and social systems.

Building resilience to such vulnerabilities and risks entails addressing this nexus of converging threats. This interconnected and complex scenario is forcing Governments across the region to accept that it is no longer sufficient to consider and address such challenges individually, but rather it is necessary to treat them as an interconnected system. Furthermore, it has shown how a single event that in isolation might seem manageable within national borders can trigger multiple and interrelated global shocks. The 2010 floods in Pakistan and the droughts in the Russian Federation together were translated by global financial and trade systems into higher food prices. Massive floods in Thailand in 2011 triggered a cascade of supply-chain failures, bringing production to a halt in factories around the world.

A whole range of policy options are available for regional organizations to support national food security. ASEAN has a long history of striving towards greater regional cooperation in the area of food security. Two of its pioneering efforts were the ASEAN Framework Action Plan on Rural Development and Poverty Eradication and the ASEAN Action Plan on Social Safety Nets, which aimed to ensure the protection of the most vulnerable sections of the communities. Some projects that were implemented to achieve this objective related to regional cooperation in human capital development, including capacity-building for employment promotion, manpower planning, skills training, social monitoring and design of emergency social safety nets. The ASEAN Integrated Food Security Framework and the Strategic Plan of Action on Food Security in the ASEAN Region have provided an overarching framework for the region to comprehensively address food security by defining goals, objectives, guiding principles and key components.

In the Colombo Statement on Food Security, which was issued during the Fifteenth Summit of the South Asian Association for Regional Cooperation (SAARC), held in Colombo on 2 and 3 August 2008, the Heads of State and Government recognized the importance of food security and the need to develop a people-centred short- to medium-term regional strategy and collaborative projects that lead to an increase in food production, investment in agriculture and agro-based industries, agricultural research and prevention of soil health degradation, development and sharing of agricultural technologies, sharing of best practices in procurement and distribution, and management of the climatic and disease-related risks in agriculture. The subsequent special SAARC meeting of agriculture ministers recognized the need to develop a harmonized network for safe movement of agricultural commodities in the region and collaborate on human resource development and capacity-building in identified areas, namely integrated pest management, pest-risk analysis, integrated nutrient management, post-harvest technologies, biotechnology and bioresource management.

The task of strengthening regional food stocks has received heightened focus recently. The ASEAN Food Security Reserve, initially established with a rice reserve of 50,000 tons contributed by ASEAN member countries, has expanded to include ASEAN Plus Three countries (ASEAN plus China, Japan and the Republic of Korea), with an earmarked stockpile of 787,000 tons. A three-tier system has been identified for releasing food stocks from the system: (a) receive rice on commercial contracts to meet supply-demand deficits; (b) obtain food stocks as a loan in an emergency; and (c) receive free food stock in severe cases. All three tiers have been used recently, indicating the Reserve's success. SAARC also replaced its food security reserve with the SAARC Food Bank at the Fourteenth SAARC Summit, held in New Delhi on 3 and 4 April 2007. This Summit also introduced new guidelines on withdrawals and negotiations and established definitions on food shortages and quality standards of grains. The operationalization of the SAARC Food Bank has been under discussion for the past few years.

The Pacific Island Forum Leaders Meeting agreed in 2008 that food security requires a coordinated approach and engagement of Governments, national and regional organizations, international and multilateral organizations, the private sector, the food industry, farmers and fishers, consumers and civil society.[73] Subsequently, the Pacific Food Summit held in Port Vila in 2010 endorsed the Framework for Action on Food Security, which outlined seven themes: leadership and cooperation; regulatory frameworks, enforcement and compliance and

[73] The members of the Forum include: Australia, the Cook Islands, the Federated States of Micronesia, Fiji, Kiribati, the Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

public-private sector collaboration; enhanced and sustainable production, processing and trading of safe and nutritious local food; protection of infants and vulnerable groups; consumer empowerment and mobilizing partners; a food security information system; and enhancement of land tenure systems and land-use policies, energy, transport, education and communication systems to underpin food security.

Regional organizations have developed innovative mechanisms for coordinating efforts to combat transboundary animal and plant diseases and sharing agricultural knowledge and research findings. Some examples of these mechanisms are the ASEAN Integrated Food Security Framework, the SAARC Global Framework for Containment of the Priority Transboundary Animal Diseases and the exchange of scientific information on agricultural production and consumption through the Asia-Pacific Association of Agricultural Research Institutions.

5.4. Addressing shared vulnerabilities and risks: main challenges

Improving the collective management of shared vulnerabilities and risks is a major challenge that needs to be dealt with through regional cooperation. A key impediment is the lack of data- and information-sharing across countries on disaster occurrence and impacts and losses at the regional level. Sharing data and information with neighbours and riparian countries is sometimes limited. Absence of global and regional standards on disaster statistics makes sound assessment of vulnerabilities and risks difficult. Such data, which should include information on transboundary river basin floods and slow-onset disasters, such as droughts, are needed to estimate regional disaster risks and transboundary hazards and strengthen early warning systems. Considering the large contingent liabilities associated with disasters, a second major challenge is to set aside sufficient resources to meet expected losses. This is especially important to avoid disruptive impacts of disasters on poverty reduction in particular and on implementation of the 2030 Agenda in general.

In addition, current levels of ex ante financing mechanisms and investment in disaster risk reduction are insufficient to significantly buffer economies from negative growth impacts. As a result of the low insurance penetration in the countries that are most vulnerable to disasters, another important challenge is to identify ways to manage risks and to create opportunities to share or transfer disaster contingencies. The challenge to build well-functioning risk transfer systems is even greater in countries characterized by low levels of financial development.

5.5. Way forward

Addressing the region's shared vulnerabilities will require strengthened regional cooperation, to avoid a reversal of the gains already made from regional economic cooperation and integration and to boost efforts being undertaken to achieve the Sustainable Development Goals. While taking advantage of ESCAP programmes that already exist, including the Regional Cooperative Mechanism for Drought Monitoring and Early Warning, the Regional Space Applications Programme for Sustainable Development and the Asian and Pacific Centre for the Development of Disaster Information Management, additional efforts should be undertaken, as follows.[74]

While progress has been made in strengthening early warning for tsunamis and tropical cyclones, significant gaps still exist with regard to other cross-border hazards despite scientific advances and their widespread availability, such as in the area of weather and climate forecasting and space technology applications for disaster risk reduction. Regional economic cooperation and integration can facilitate regional action (a) to strengthen the existing regional cooperation platforms for tropical cyclones by extending coverage to the Pacific; (b) to deepen partnership with key stakeholders for effective end-to-end tsunami early warning systems; (c) to establish regional cooperation and data-sharing mechanisms, prioritizing flood forecasting in transboundary rivers basins where poverty is very high, as well as glacial floods and landslides; and (d) to extend the ESCAP Regional Cooperative Mechanism for Drought Monitoring and Early Warning to underserved countries.

To help with efforts to achieve the Sustainable Development Goals related to disaster risk reduction and resilience, the international network for multi-hazard early warning systems is being established, led by the United Nations in partnership with the

[74] These recommendations are based on the Chair's summary of the High-level Dialogue on Regional Economic Cooperation and Integration in Asia and the Pacific, held in Bangkok on 20 and 21 April 2017. See E/ESCAP/73/INF/9.

World Bank and related development partners. As part of regional economic cooperation and integration, ESCAP will lead the regional component of this network through a regional action plan. The regional action plan envisages (a) strengthening the existing ESCAP/World Meteorological Organization (WMO) Typhoon Committee and WMO/ESCAP Panel on Tropical Cyclones and extending the partnership between ESCAP and WMO to the Pacific through the Regional Association V Tropical Cyclone Committee for the South Pacific and South-East Indian Ocean; (b) deepening the partnership between ESCAP and the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization for effective end-to-end tsunami early warning systems in the Indian and Pacific Ocean basins; (c) establishing a regional cooperation mechanism for early warning for transboundary river basin floods, to start with priority basins and a research network for glacial lake outburst floods, flash floods and landslides; and (d) partnering with the United Nations Environment Programme, the secretariat of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, and WMO to enhance regional cooperation mechanisms for combating sand and dust storms. While addressing the unmet needs of more effective regional multi-hazard early warning, the action plan also intends to facilitate the integration of vulnerability considerations into efforts to strengthen regional economic cooperation and integration to ensure that the developmental gains already made are not reversed by disasters.

Significant gaps exist in understanding the sectoral impacts of slow-onset disasters, such as drought and the El Niño phenomenon, making evidence-based policymaking a challenge. As an indispensable component of risk-sensitive development, regional economic cooperation and integration can establish arrangements for strengthening the science-policy interface and promoting innovative tools and institutional mechanisms already being implemented by some countries in the region – such as climate outlook forums and climate field schools – to deepen understanding of the sectoral impacts of slow-onset disasters triggered by drought, El Niño and La Niña, and climate change.

Alongside traditional financing mechanisms, index-based or parametric insurance has the potential to increase the efficiency and effectiveness of disaster insurance, as it is based on a scientific and more transparent determination of payment. For small countries that may experience great difficulty in financially managing disaster impacts, risk pooling could be an attractive strategy. In this case, regional cooperation is very worthwhile because it not only allows countries to transfer risks by pooling them, but also enables them to use this pool to purchase reinsurance at a much lower premium than would have been the case had each country approached the market individually. Similar to other types of insurance, the insurance pool should be diverse enough to cover different risk exposures, thus enhancing the attractiveness of wider regional cooperation. Regional economic cooperation and integration can promote regional peer learning on index-based or parametric insurance and risk pooling to increase the efficiency and effectiveness of disaster risk financing based on advances in space applications, mobile technologies, and weather and climate models. One priority area for regional economic cooperation and integration could be the establishment of an analytical infrastructure for peer learning, such as a regional knowledge platform to promote the sharing of experiences in disaster risk financing and in the operationalization of parametric insurance among countries in the Asia-Pacific and other regions.

Regions can play a decisive role in food security in several ways, including: (a) building integrated regional food markets to insure against localized food production shortfalls that a country alone may not be able to withstand; (b) coordinating policies and sharing information for sustainable food production; (c) managing transboundary resources better, thus minimizing potential impacts arising from climatic changes; and (d) pooling food security risks through innovative mechanisms.

Increased confidence in regional food markets can minimize price hikes that are often a result of panic buying because of shortfalls in local food production. Trade restrictions imposed on food trade during the 2007-2008 food crisis are often used by countries to argue for food self-sufficiency, frequently at the expense of potential efficiency gains from the alternative use of precision land and other resources.

Confidence also needs to be built on the quality and safety of food by harmonizing sanitary and phytosanitary standards and certification mechanisms, simplifying and increasing the transparency of administrative procedures and documents and implementing them with more vigour. Coordinating policies and sharing information can increase food production, allowing for greater use of comparative advantages based on regional differences in the soil and climatic conditions suitable to produce different varieties of plants and animals. This can also promote the use of better plant varieties, genetic resources and inputs available within larger geographic regions.

Opportunities to use better technology in agricultural production, reducing post-harvest losses and knowledge in food preparation and processing can also lead to improved food security outcomes. Sharing information on production systems, technology and other information required for food production can be a fundamental force in re-establishing trust among countries on the regional food markets. Sharing knowledge on transboundary plant and animal diseases has become an essential component of agricultural policy because of the increased likelihood that diseases will spread in the current global production and consumption systems.

CHAPTER VI

CONCLUSIONS

The analysis in this report provided an in-depth background of regional economic cooperation and integration (RECI) in Asia and the Pacific and outlined the context, challenges and recommendations for its four constituent elements: (a) moving towards the formation of an integrated market; (b) development of seamless connectivity in the region; (c) enhancing financial cooperation; and (d) increasing economic cooperation to address shared vulnerabilities and risks. The main recommendations in each of these areas are summarized in this chapter, which concludes with an assessment of the next steps required to enhance regional economic cooperation and integration across the region.

Market integration

The rising dynamism of the Asia-Pacific region's emerging countries combined with the integration of the region's economies into global value chains are behind the growing importance of the region in international trade. Boosting trade is certainly an important means of implementing the 2030 Agenda. However, to achieve greater market integration so that it effectively supports the implementation of the 2030 Agenda, the following issues need to be addressed, which are important obstacles to deeper regional integration: (a) complexity involving multiple and often overlapping trade and investment agreements; (b) the tendency for rising non-tariff protectionism, which is not addressed properly by preferential liberalization; (c) lack of consolidated regional trade facilitation initiatives; and (d) very slow progress in facilitating safe, orderly and regular migration.

The experience of East Asia has clearly demonstrated the positive linkages between market integration and socioeconomic development. Through trade-driven economic development policy, China alone has successfully raised 600 million people above the poverty line (Goal 1). Trade in agriculture has enhanced overall food security (Goal 2), liberalization of education services has increased the quality of education (Goal 4), and integrated value chains have provided opportunities for work (Goal 8), including for women (Goal 5). Market integration is also a key factor in enhancing regional stability (Goal 16), attracting foreign investment for much needed infrastructure (Goal 9) and facilitating technology transfer (Goal 17). While multilateral processes through the World Trade Organization (WTO) promise optimal outcomes, in lieu of difficulties in negotiations, there has been an increase in market integration through bilateral and plurilateral agreements. It is a welcome development that such agreements have become more comprehensive, increasingly featuring specific provisions on labour and environment, also helping address further goals such as climate, life below water and life on land (Goals 13, 14, 15).

The recent rise in protectionism is an important impediment to regional market integration, and in its role in supporting efforts aimed at achieving the Sustainable Development Goals. Most new protectionist measures belong to the non-tariff category. While some of them are permitted by the WTO rules, they impede trade by raising the cost of trade and diminishing the predictability of future trade opportunities. To deal with these obstacles to market access, an important first step is to improve the measurement and impact assessment of non-tariff measures. Ultimately, steps need to be taken to streamline and harmonize non-tariff measures to support trade and investment liberalization in developing countries and countries with special needs. This can be done, for example, by facilitating mutual recognition agreements and conformity assessment procedures and harmonizing standards. In this regard, the implementation of the Framework Agreement on Facilitation of Cross-Border Paperless Trade in Asia and the Pacific is an example of a unique opportunity for regional economic cooperation, as it potentially will result in lower intraregional trade costs and enable benefits of trade expansion to be shared more widely.

There is a need to better align trade-related Sustainable Development Goals with current trade liberalization and trade facilitation initiatives, especially for least developed countries. It is also important to keep in mind that successful regional integration requires not only the harmonization of external policies but also efforts towards the harmonization of internal distribution systems and policies. In addition, it is important to develop regional investment regimes that appropriately balance investor rights with host country development needs to provide a more supportive policy environment for global and regional supply chains.

To minimize the "noodle bowl" of overlapping bilateral and plurilateral trade agreements, more comprehensive trade agreements encompassing a larger number of countries may offer great potential to coordinate the prevalent inconsistent trade and investment rules. Such agreements may also offer an opportunity to consolidate multiple overlapping rules of origin of existing agreements, which are often found to be reducing trade efficiency. In addition, the region may work towards developing mutual recognition agreements on standards and conformity assessments for goods and services.

To boost market integration in a manner that is consistent with sustainable development, cooperation with the private sector and a more effective outreach to the public are vital. For this purpose, there is need for a strong regional coordinating role in research, technical assistance, policy advice, dissemination of information to stakeholders and consensus building.

International migration has the potential to yield a net benefit to migrants and their families, as well as to countries of origin and destination. However, harnessing these benefits requires concerted efforts and initiatives that promote cooperation among and between countries in the Asia-Pacific region to address political, technical and socially embedded perceptions of migrants. For that purpose, countries can consider the establishment of bilateral or regional agreements to ease the issuance of visas and work permits, improve transparency, and move towards the harmonization of qualification frameworks and the adoption of common procedures for payment of social benefits.

Labour market integration, accompanied by measures to ensure that migrant workers of all skill levels benefit from labour market protection programmes, non-discrimination in terms of salaries, access to social protection and portability of acquired social protection rights, and mutual recognition of qualifications, will contribute towards achieving Sustainable Development Goal target 10.7 (Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies). These measures and policies will also help efforts aimed at achieving target 8.8 (Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment).

Seamless connectivity

While subregional and regional initiatives have an important role to play towards enhancing cross-border seamless connectivity in transport, energy and the ICT sectors, these initiatives should be aligned with and complement each other. In addition, considering the interconnection among the transport, energy and ICT sectors offers opportunities for increased efficiency through integrated management. These considerations are important if seamless connectivity is to effectively support the implementation of the 2030 Agenda.

Although it is widely recognized that transport connectivity – by linking individuals to opportunities, enlarging markets for goods and services, and strengthening people-to-people contacts – plays an important role in development, numerous challenges remain in achieving region-wide seamless transport connectivity. Among them are missing railway links, substandard roads, costly and time-consuming transloading of goods at border crossings, different standards, and lack of public-private and private-private interactions. These challenges can be tackled by enhancing efforts to connect missing railway links, developing intermodal linkages, applying innovative technology solutions for better efficiency, harmonizing technical standards and operational rules, and creating a broad partnership platform to promote seamless and sustainable transport connectivity among the public and private sectors.

The realization of sustainable integrated intermodal transport connectivity will contribute directly to targets in Goal 2, in providing access to market and opportunities and increasing investment in rural infrastructure; Goal 3, in halving the number of road traffic deaths; Goal 7, in improving energy efficiency; Goal 9, in building resilient infrastructure; and Goal 11, in providing access to safe, affordable, accessible and sustainable transport systems for all. It will also contribute indirectly to Goal 1, in reducing poverty; Goal 13, in mitigating climate change through the use of an environmentally friendly mode of transport; and Goal 17, in supporting and enhancing global partnerships.

Although countries in the region have identified energy as the key driver for economic growth and poverty reduction, and as an indispensable enabler for many of the Sustainable Development Goals, its full potential can only be unlocked through regional cooperation and integration. The region has great potential to enhance its energy security by boosting trade and investment in transboundary energy networks and by integrating large-scale renewable energy projects to them. Moreover, connecting countries that are potential producers of renewable energy to countries with high energy demand – which is currently satisfied mainly by fossil fuels – not only would be in line with Goal 7 but also could make a very effective contribution to the mitigation of climate change.

Multilateral organizations play a key role in facilitating regional projects, particularly those that are politically and economically complex; the CASA-1000 initiative is a prime example of this. In creating interdependence and increasing sustainability of the energy sector among countries of the region, there is also need to set up an innovative energy cooperation mechanism that involves different stakeholders in reaching consensus on technology, regulatory and financing barriers combined with an institutional mechanism to balance gains and costs among different stakeholders, and to ensure that no one is left behind.

With regard to enhancing seamless connectivity in the ICT sector, the Asia-Pacific Information Superhighway initiative could play an important role in improving affordability and bridging the digital divide across the region. The realization of this initiative is critical for small and landlocked countries. This initiative can also support countries in the region in their effort to achieve Sustainable Development Goals 5, 9 and 17. With regard to laying out ICT infrastructure, it is important to keep in mind the positive effects of integrating Internet broadband networks into the planning of major roads, railways and waterways. An example is the co-deployment of fibre-optic cable along power grids in Bhutan, a key cost-saving approach because of the country's rugged terrain. This approach benefits remote villages. It enables the power company responsible for the grid to maintain both electrical lines and fibre-optic cables efficiently and falls in line with ensuring that no one is left behind, the underlying principle of the 2030 Agenda.

Investment in infrastructure, such as energy, transport, and ICT, require ample financial and technical resources. However, the availability of such resources, especially in the public sector, is limited in most economies. In addition, supporting the implementation of the 2030 Agenda requires that projects with most favourable economic, social and environmental impacts at the regional level are prioritized. Evaluating such projects, some of which encompass more than one sector, is a complex task. Moreover, the overall complexity of regional infrastructure projects is exponentially greater than national projects. Thus, an effective partnership involving governments, international financial institutions, pertinent regional and international organizations, and various national stakeholders need to be forged.

Regional financial cooperation

The mobilization of financial resources is fundamental for the financing of the 2030 Agenda. The Asian Development Bank has recently estimated that the region needs $1.7 trillion per year until 2030 to close the infrastructure gap and increase resilience to climate-related risks. Although the aggregate savings of the entire region are sufficient to finance such needs, these savings are unequally distributed across countries. In addition, countries differ significantly in their levels of financial development, and the lack of adequate financial intermediation channels has led to a diversion of savings to financial instruments outside the region, as well as to non-financial assets, such as gold or real estate. Therefore, regional financial cooperation is needed to support the efficient channelling of financial resources from saving-abundant countries to those with the greatest investment needs.

The Asia-Pacific region has traditionally relied on banking as the main form of financial intermediation, which has limited the channelling of domestic savings to long-term investments, such as infrastructure projects. The development of domestic capital markets, particularly local currency bond markets and stock markets, can support such channelling. For this purpose, it is necessary to effectively regulate the issuing and trading of bonds and equities and to provide an appropriate environment for the participation of institutional investors with long-term horizons in domestic capital markets. To increase the availability of financing for infrastructure investment, in addition to developing capital markets, it is important to promote public-private partnerships and mitigate contract enforcement, currency and political risks.

Enhancing financial cooperation and integration can also support the channelling of financial resources across countries. However, it is important to be aware that financial integration can expose countries to risks associated with volatile capital flows. To manage those risks, countries need to develop and implement appropriate financial regulations and prudent capital flow management measures. To support national efforts, it is necessary to strengthen and broaden regional economic surveillance mechanisms and ensure that sufficient emergency lending is available in the region. The development of regional macroprudential policy frameworks to control risk levels and to manage crises and market volatility could also be considered.

The strengthening of public finance to meet current and future spending needs and to secure a sustainable and prosperous future is a top priority in Asia and the Pacific in the context of the 2030 Agenda, as highlighted in Sustainable Development Goal target 17.1 (Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection). For that purpose, there is need to promote cooperation on tax matters in the Asia-Pacific region through focused research, knowledge and experience exchanges, and targeted technical assistance and capacity-building activities in cooperation with relevant regional and global organizations.

Small and medium-sized enterprises constitute the largest number of companies in any country and play a fundamental role in the creation of employment, the development of skills and the diffusion of technological knowledge. However, they often lack adequate access to credit and financial services. New business models and technologies, including fintech companies, have great potential for enhancing financial inclusion, but rapid expansion in the access to credit carries risks to financial stability. To manage such risks, there is need to develop appropriate supervision and regulatory frameworks, extend financial education, strengthen consumer protection regimes and build a stronger financial infrastructure. Regional cooperation could play a useful role in supporting countries in pursuing these endeavours.

Shared vulnerabilities and risks

Keeping in view the 2030 Agenda, there are two important elements for strengthening regional cooperation to address shared vulnerabilities and risks. First, to find common strategies, approaches, and tools for building resilience to disasters; and second, to provide capacity-building and support to countries that have high risks but low capacities. While ESCAP has set up many initiatives to foster such cooperation – including the Regional Cooperative Mechanism for Drought Monitoring and Early Warning, the Regional Space Applications Programme for Sustainable Development, and the Asian and Pacific Centre for the Development of Disaster Information Management – there is a need for additional actions, as suggested below.

First, a regional action plan for multi-hazard early warning systems could be set up, in order to: (a) strengthen the existing regional cooperation platforms for tropical cyclones by extending coverage to the Pacific; (b) deepen partnerships with key stakeholders for effective end-to-end tsunami early warning systems; (c) establish regional cooperation and data-sharing mechanisms, prioritizing flood forecasting in transboundary rivers basins where poverty is very high and glacial floods and landslides occur; and (d) extend the ESCAP regional drought mechanism to cover underserved countries.

Second, the science-policy interface could be strengthened and innovative tools and institutional mechanisms promoted, such as the Regional Climate Outlook Forums and Climate Field Schools, which are being implemented by some countries in the region to deepen understanding of the sectoral impacts of slow-onset disasters, such as those triggered by drought, the El Niño and La Niña phenomena and climate change. To support these efforts, ESCAP, through its work in space application and multi-hazard early warning systems, could develop methodologies and guidelines for risk assessment and mapping and scenario-based impact outlooks for slow-onset disasters. Such tools can help build capacities in countries at high risk, from the national level to the community level. ESCAP could also support the implementation of demonstration projects to test science-based approaches and techniques and to build platforms for sharing lessons learned and good practices within the countries in the region, including though South-South and bilateral cooperation.

Third, regional peer learning could be promoted with respect to index-based, or parametric, insurance and risk pooling to increase the efficiency and effectiveness of risk transfer mechanisms based on advances in space applications, mobile technologies, and weather and climate models. For countries experiencing great difficulty in financially managing disaster impacts, parametric insurance can be an attractive strategy, but to implement it will require considerable capacity-building efforts. To facilitate these efforts, ESCAP could provide an analytical infrastructure for peer learning by establishing a regional knowledge platform to promote the sharing of experiences in risk transfer mechanisms and by supporting the operationalization of parametric insurance in selected countries.

With respect to country-specific strategies, it is important to take a multi-sectoral approach to disaster risk reduction for sustainable development. This includes (a) mobilizing non-governmental organizations to bridge the gap at the local level in implementing national policies, (b) supporting community based disaster risk reduction approaches through science-based approaches, and (c) promoting cooperation among city and local governments.

Suggestions for moving forward

The recommendations detailed in this chapter for each of the four pillars of regional economic cooperation and integration propose a series of actions that may be realized with enhanced regional cooperation. Arising from the analysis in the report and these detailed recommendations, there are three broad opportunities for member States to seize in order to enhance regional economic cooperation and integration.

First, the Asia-Pacific region is characterized by a plethora of overlapping and often mutually inconsistent bilateral and plurilateral regulatory frameworks in such areas as trade preferences, investment protection, transport norms and trade facilitation. These "noodle bowls" create inefficiencies and added transaction costs. In order to facilitate trade and investment throughout the region, such "noodle bowls" should be simplified.

Second, new regional integration initiatives, including the Belt and Road Initiative and the Eurasia Initiative, can play an important role in boosting physical infrastructure investment throughout the region. However, to achieve the goal of seamless connectivity, such efforts need to be complemented with facilitation agreements and the simplification of regulations, including those pertaining to trade and investment. Furthermore, a significant boost in infrastructure investment requires the mobilization of additional financial resources, and that such investment be undertaken in a way that contributes to reduce vulnerabilities emanating from transboundary environmental and disaster risks. In the light of these relationships, it is necessary to move forward simultaneously in all four pillars of regional economic cooperation and integration.

Third, a deeply interlinked and mutually supportive relationship exists between regional economic cooperation and integration and the 2030 Agenda. On one hand, unleashing trade and investment within the Asia-Pacific region, a major objective of regional economic cooperation and integration, can generate enormous opportunities for increasing income and employment. These opportunities can directly and indirectly contribute to the achievement of the Sustainable Development Goals. On the other hand, the Goals play a vital role in guiding the implementation of regional economic cooperation and integration, for instance, by ensuring that infrastructure projects have favourable social, environmental and impacts. Other ways in which the 2030 Agenda can contribute to regional economic cooperation and integration are by ensuring that infrastructure projects connect small, low-income and geographically distant countries with the main markets of the region, and by giving high priority to initiatives that address transboundary vulnerabilities and risks. Aligning regional economic cooperation and integration with the 2030 Agenda would also enable the region to cultivate solutions for shared regional challenges, such as rapid urbanization, climate change, energy security and rising inequalities.

The Economic and Social Commission for Asia and the Pacific can play an overarching role in helping the region capitalize on these opportunities by leveraging its inclusive intergovernmental platform, its normative work and its multisectoral technical expertise in support of regional economic cooperation and integration. ESCAP is already working to strengthen the constituent pillars of regional economic cooperation and integration through its existing subprogrammes and intergovernmental committees in areas such as transport, ICT, energy, financing for development, trade and disaster risk reduction. It is also working with subregional cooperation organizations, including ASEAN, the Economic Cooperation Organization (ECO), PIF and SAARC, and is providing technical cooperation for the Belt and Road Initiative.

In all, ESCAP is well positioned to accelerate progress across all four pillars of regional economic cooperation and integration simultaneously and bring together member States, subregional organizations and other institutions working on regional economic cooperation and integration on its platform. For this purpose, it can draw on its long-standing normative and research work on the constituent elements of regional economic cooperation and integration to forge regional agreements, undertake research to better understand the costs and benefits of regional economic cooperation and integration and develop cross-sectoral synergies. It can also facilitate connecting regional economic cooperation and integration to global initiatives and frameworks for actions related to sustainable development, financing for development and climate change.

In addition to the regional economic cooperation and integration priorities articulated in the 2013 Bangkok Declaration, the agenda for regional cooperation set in the regional road map for implementing the 2030 Agenda, which was endorsed by the Commission in its resolution 73/9, also provides useful ideas for moving forward. In the road map, priorities for regional cooperation are established that overlap with current priorities for regional economic cooperation and integration and in other areas. Table 6.1 shows the correlation between the priorities set out in road map and those established in the Bangkok Declaration.

As is clear from the table, the focus areas considered in the Bangkok Declaration are all addressed in the regional road map. However, some important priority areas for regional cooperation established in the road map, such as data and statistics, policy coherence and partnerships, are not part of the Bangkok Declaration. In addition, coverage of the overlapping areas varies somewhat in the road map and the Bangkok Declaration. Therefore, going forward, it will be useful to carry out the ESCAP work on regional economic cooperation and integration, keeping in view the regional road map.

As Asia and the Pacific emerges as the most dynamic region of the world, the next phase of regional economic cooperation and integration in the region holds much promise to deliver shared prosperity and sustainable development for its member States and to increase their collective resilience to natural and man-made shocks. Overcoming the many challenges that stand in the way of achieving this vision requires learning from existing models of subregional cooperation, enhanced regional cooperation and agreements, and continuous efforts to build trust through mutual understanding and sharing of benefits.

TABLE 6.1. Regional economic cooperation and integration and the regional road map for implementing the 2030 Agenda

Road map priority areas for cooperation	Corresponding areas of regional economic cooperation and integration, as identified in Bangkok Declaration (relevant paragraph number)
1. Means of implementation and partnership	
(a) Data and statistics	
(b) Technology	Addressing shared vulnerabilities and risks (22)
(c) Finance	Regional financial cooperation (14)
(d) Policy coherence	
(e) North-South, South-South, international and regional partnerships	
2. Thematic issues	
(a) Leaving no one behind (social development)	Market integration (8)
(b) Disaster risk reduction and resilience	Addressing shared vulnerabilities and risks (20, 21)
(c) Climate change	Addressing shared vulnerabilities and risks (23)
(d) Management of natural resources	Addressing shared vulnerabilities and risks (22)
(e) Connectivity for the 2030 Agenda	Seamless connectivity (10, 11, 12, 13) Market integration (7)

Source: ESCAP based on documents E/ESCAP/73/31 and Official Records of the Economic and Social Council, 2014, Supplement No. 19 (E/2014/39-E/ESCAP/70/32).

I. REGIONAL ECONOMIC COOPERATION AND INTEGRATION INITIATIVES IN ASIA AND THE PACIFIC

There are two kinds of RECI initiatives in the region. On one hand, overarching initiatives have extensive purview, are multipurpose, and usually cover a given geographical area. The South Asian Association of Regional Cooperation (SAARC), ASEAN, and the Pacific Islands Forum (PIF) are examples of overarching initiatives. These are usually intergovernmental and advisory in design. On the other hand, functional arrangements are for a specific purpose, activity or geographical area and have a much narrower focus. An example is the Regional Power Trading Committee of the Greater Mekong Subregion (GMS), which has the goal of creating an integrated market for the power sector in the GMS countries.

Overarching regional groups in Asia and the Pacific

ASEAN. The Association of Southeast Asian Nations (ASEAN) is among the first successful regional collaborative initiatives. It was formed through a declaration in 1967 with five founding members: Indonesia, Thailand, Malaysia, the Philippines and Singapore. Membership was later expanded to include five more countries: Brunei Darussalam (1984), Viet Nam (1995), the Lao People's Democratic Republic and Myanmar (1997), and Cambodia (1999). ASEAN has a broad economic cooperation and integration agenda that cuts across virtually all functional areas, including trade and investment, infrastructure, money and finance, regional public goods and security. It is a formal organization of regional member countries and meets at the summit level. In recent years ASEAN has entered into even broader regional partnerships by affiliating with China, Japan and the Republic of Korea in connection with the ASEAN+3 heads of State forum.

What began as a modest initiative for economic and security cooperation has over time become one of the most successful experiments in the developing world, one based on the principles of openness and gradualism. The ASEAN Charter in 2008 through a simple five-article declaration, with the aim of creating an ASEAN Economic Community (AEC) as a single market by 2015. Under the charter a Committee of Permanent Representatives was also set up to guide and support the ASEAN secretariat, located in Jakarta. ASEAN has cooperation programmes in almost all fields, but in order to prepare for AEC in 2015, several important steps were taken, including preparation of a plan for ASEAN connectivity, acceleration of trade and other liberalization steps, and establishment of the ASEAN Infrastructure Funds with contributions from shareholders totalling close to $500 million.

SAARC. Launched in 1985, South Asian Association for Regional Cooperation (SAARC) was set up by seven nations: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. Afghanistan joined in 2007. Its secretariat is in Kathmandu. The SAARC charter laid out objectives and principles, as well as institutional and financial arrangements. Overall progress in integrating the subregion has been quite slow: intraregional trade in South Asia is the lowest in the region; totalling only one third of its potential. Trade in South Asia has traditionally been hindered by political tensions and high transport costs largely due to lack of adequate transport infrastructure and behind-the-border barriers. Investment in physical infrastructure to allow the seamless transportation of goods needs to be accompanied by strong political will to dismantle the numerous tariff and non-tariff barriers that continue to block trade.

The South Asian Association for Regional Cooperation adopted a programme of economic cooperation in 1991, and four years later created the SAARC Preferential Trading Arrangement. In 2004, the Agreement on South Asian Free Trade Area was established under SAARC, with the vision of implementing a borderless economic zone between 2006 and 2016. At the sixteenth SAARC Summit, held in Bhutan in 2010, SAARC adopted the SAARC Agreement on Trade in Services and created the $300-million SAARC Development Fund with social, economic and infrastructure windows. SAARC activities include a finance ministers' mechanism, an eminent persons' group, an arbitration council and several technical committee meetings.

Pacific Islands Forum. The Pacific Islands Forum (PIF) was founded by seven countries – Australia, Cook Islands, Fiji, Nauru, New Zealand, Tonga and Western Samoa (now Samoa) – in 1971 as the South Pacific Forum. In 2000, the name was changed to the Pacific Islands Forum to better reflect the geographic location of its members in the north and south Pacific. The membership of the Forum has expanded over time and now includes 16 members, three associate members and a number of observers, including multilateral institutions, United Nations agencies and island countries. The secretariat is in Suva. The Forum primarily focuses on policy advice programmes on economic governance covering issues related to trade and investment, money and finance, regional public goods and security. The Pacific subregion has been reasonably successful in articulating its concerns. One area of particular concern is climate change and its implications for the Pacific island countries.

The annual Forum meetings are chaired by the Head of Government of the host country, who remains as Chair of the Forum until the next meeting. Since 1989, it also has held post- forum dialogues with key dialogue partners at the ministerial level. The Forum has 17 dialogue partners: Canada, China, Cuba, the European Union, France, India, Indonesia, Italy, Japan, the Republic of Korea, Malaysia, Philippines, Spain, Thailand, Turkey, the United Kingdom and the United States.

In 2014, the Forum adopted the Framework for Pacific Regionalism, which represents a high-level commitment to pursue deeper regionalism. The Framework sets the vision, values, objectives and approaches related to achieving deeper regionalism and lays out a process for developing and prioritizing regional public policy. At the forty-sixth annual meeting in 2015, it was decided that the SIDS Accelerated Modalities of Action (SAMOA) Pathway, the 2030 Agenda for Sustainable Development, and the Framework for Pacific Regionalism should be implemented in an integrated manner that promotes sustainability and enhances ownership by the Pacific countries themselves.

Eurasian Economic Union. Under the Treaty on the Eurasian Economic Union (EAEU), a customs union was established in 2015, comprised of Armenia, Belarus, Kazakhstan, Kyrgyzstan and the Russian Federation, with the object to upgrade and raise the competitiveness of and cooperation among the member countries. It basically was set up to promote economic cooperation and integration through the free movement of goods, services, capital and labour, and pursue coordinated, harmonized and a single policy in the sectors determined by the treaty and international agreements within the union.

The Eurasian Economic Union is one of the first institutional cooperation mechanisms in the Central Asian subregion that provides economic benefits, especially in that it allows for much-needed labour migration from the poorer Central Asian countries. In January 2015 the Russian Federation introduced regulations for labour migrants that gave citizens from EAEU member countries preferential access to its massive labour market. Thus, Kyrgyz workers have an advantage over migrants from Uzbekistan, for example. For non-member countries in the subregion, such as Tajikistan, the new regulations provide an incentive to join EAEU. Current provisions of EAEU promote a model of diversification based on the processing of local resources in which it is hoped that the industry will thrive in the much larger Russian Federation market through favourable entry measures.

Trilateral Summit. Established in 2008, the Trilateral Summit is comprised of China, Japan and the Republic of Korea. Its activities include high-level meetings of political leaders in addition to other meetings to enhance mutual political trust, increase trade and investment and widen social and cultural exchanges. A secretariat for the Summit was set up in 2011 in Seoul after an agreement was signed and ratified by each of the three Governments. On the basis of equal participation, each Government is financially responsible for allocating one third the total operational budget. Because of political considerations, there are no formal, overarching institutional arrangements. The three countries have joined other interregional arrangements such as ASEAN+3 and CAREC. They can potentially work together to deal with a number of issues, including those related to marine environment, climate change and transboundary air pollution.

East Asia Summit. The East Asia Summit is a leaders forum for strategic dialogue that initially included ASEAN +3 (ASEAN member countries plus, China, Japan and the Republic of Korea). In 2005, it was expanded to include Australia, India and New Zealand. The Summit was formed through a declaration, and since then, 10 meetings have been held, back-to- back with ASEAN summits. Its activities focus on advancing regional economic cooperation in the areas of finance, trade, climate change and natural disaster management.

Functional regional economic cooperation and integration arrangements and programmes

Functional groups have a narrow focus on specialized areas, usually with specific tasks or mandates. They function either independently or as part of overarching groups. The region has a very large number of such arrangements, often with overlapping memberships and specializations, which results in a duplication of efforts and resources. Moreover, often the rules for harmonization are not standardized across subgroups, leading to long-term challenges for regional connectivity.

These groups usually operate within contiguous geographic areas and tend to adopt "bottom-up" processes. Their collective efforts contribute towards improving cross-border connectivity or dealing with problems that are localized. However, the overlapping membership of counties in the region to several of these groups is costly to Governments, particularly for countries with limited financial and human resources. For instance, some ASEAN members are also part of the Greater Mekong Subregion (GMS), the Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area, the Indonesia-Malaysia-Thailand Growth Triangle, the Mekong River Commission and the Southeast Asian Water Utilities Network, arrangements whose functions overlap with those of ASEAN. In addition, there are also cooperation programmes with other international institutions. Some of the functional RECI arrangements and programmes in the Asia-Pacific region are described below.

The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) was set up in 1997 through a declaration and currently includes Bangladesh, Bhutan, India, Myanmar Nepal, Thailand and Sri Lanka. Its activities are related to agriculture, counter-terrorism and transnational crime, climate change, fisheries, environment and disaster management, infrastructure (energy, transport and communications), public health, poverty alleviation, trade and investment, tourisms, and technology. People-to-people contacts and cultural cooperation are also part of the BIMSTEC initiatives. Seven national think tanks in the subregion have joined together to be a part of the BIMSTEC Network of Policy Think Tanks. The structure of the initiative includes meetings at summit, ministerial and senior officials levels. Different sectors are led by individual countries and a secretariat was set up in Dhaka in December 2015. BIMSTEC has also been negotiating a comprehensive preferential trade agreement since 2004. These negotiations have yet to be concluded.

The Economic Cooperation Organization (ECO) was set up in 1985 with three founding members – the Islamic Republic of Iran, Pakistan, and Turkey – with the objective to promote economic, technical and cultural cooperation among its member States. ECO is the successor organization of the Regional Cooperation for Development, which operated from 1964 to 1979. It was expanded to include Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan in 1992. Its regional programmes and projects are related to trade and investment, infrastructure, agriculture, forestry, environment, disaster, and crime management.

The Central Asia Regional Economic Cooperation (CAREC) programme was launched in 1997. It consists of ten member countries, namely, Afghanistan, Azerbaijan, China, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan and six development partners. ADB acts as its secretariat. An objective of CAREC countries is to convert their land-locked region to a land-linked region. The economic and regional cooperation programme of CAREC is built around four pillars: improved logistics through better infrastructure connectivity; trade; investment and business development; regional public goods, including health, environmental and disaster risk management areas; and promotion of knowledge and capacity-building.

The Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area was set up in 1994 as an initiative to promote economic growth in poorer provinces and border areas of the four member countries, Brunei Darussalam, Indonesia, Malaysia and the Philippines. The private sector is intended to be the main growth and development driver for the programme whereas the public sector's role is to facilitate and support the activities. The initiative aims to promote cooperation in infrastructure, trade and investment, tourism, and managing environmental concerns. It operates through designated ministries in each country. Its structure includes annual senior officials and ministerial meetings.

The Greater Mekong Subregion is one of the oldest ADB regional cooperation programmes. Established in 1992 to promote growth and development through connectivity and closer economic linkages, it encompasses five countries, namely Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand and Viet Nam, and the two South-Western Chinese provinces of Yunnan and Guangxi. The programme promotes three "C"s, connectivity, competitiveness and a sense of community. It has expanded to cover cross-border infrastructure projects and issues related to harmonizing rules and institutional mechanisms for regional power trade, transport facilitation single-window clearance systems, trade and investment facilitation, agriculture and tourism, environment, human development, and capacity-building.

The South Asia Cooperative Environment Program was set up in 1982. It exclusively focuses on environmental issues, namely those related to marine environment and coastal ecosystems, and establishing a regional oil-spill contingency plan. The programme includes SAARC members and the Maldives. Also of note, it organizes a coral reef task force and a South Asia biodiversity clearing-house mechanism.

The South Asia Subregional Economic Cooperation programme has a membership that is comprised of four members of SAARC, namely Bangladesh, Bhutan, India and Nepal. It focuses on infrastructure projects, trade and investment, money and finance, as well as regional public goods. It is comprised of six priority area working groups covering transport; tourism, trade and investment, private sector cooperation, energy and power, environment, and ICT. ADB supports its projects and programme of cooperation by providing technical assistance and financing.

The Shanghai Cooperation Organization (SCO), set up in 2001 with a membership consisting of four Central Asian countries, namely Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, and China and the Russian Federation. In 2016, India and Pakistan were elevated from being observers to full members. Two countries currently have observer status with the organization, the Islamic Republic of Iran and Mongolia. The main focus of SCO is directed to security, energy and economic cooperation. The charter for SCO stresses mutual trust, good neighbourliness, and cooperation as a model for regional cooperation and security. It has a strong security agenda and promotes cooperation in addressing drug trafficking and organized crime. More recently, SCO has been promoting energy cooperation and connectivity.

There are five focused programmes of regional cooperation in the Pacific covering fisheries, the Pacific Islands Forum Fisheries Agency, the Pacific Regional Environment Programme, the Pacific Islands Applied Geoscience Commission, the Secretariat of the Pacific Community and the South Pacific Tourism Organisation. Most of these programmes have diverse memberships, depend heavily on donor funding and deal with regional public goods.

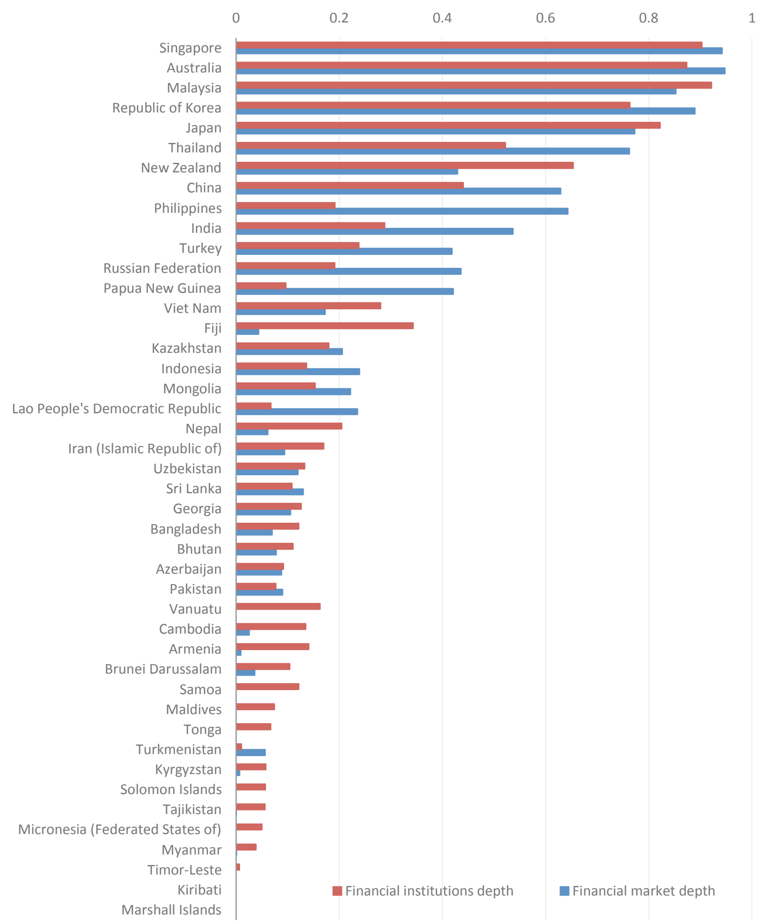
II. FINANCIAL DEVELOPMENT IN ASIA AND THE PACIFIC

Monetary Fund indexes of financial market depth and financial institutions depth for 44 ESCAP member States for which data was available in 2014. It allows us to distinguish four distinct groups. The first one is the group of financially developed countries, with an average value of the indices of financial market depth and financial institutions at 0.8 or more. This group includes Australia, Japan, Malaysia, Republic of Korea and Singapore. These countries have a relatively even level of development of their financial markets and financial institutions. A second group includes countries with intermediate levels of financial development, with an average for the two indices of between 0.3 and 0.7. It is interesting to note that the countries in this group, except for New Zealand, are characterized by a significant higher level of financial market development compared to financial institutions development.

The next group includes countries with an incipient level of financial development. The average of the two indices for this group is between 0.10 and 0.30. The group includes 12 developing countries. Some countries in this group, including the Lao People's Democratic Republic and Papua New Guinea, have significantly higher level of development of their financial markets compared to financial institutions while the opposite is true of other countries, such as Fiji and Nepal.

The final group includes countries with a low level of financial development. Their average score for the two indices is less than 0.10. This group includes such countries as Azerbaijan, Bangladesh, Bhutan and Pakistan, in which the levels of development of their financial markets and financial institutions are similar, and other countries, such as Maldives, Samoa, Tonga and Vanuatu, which have only a limited development of their financial institutions. On average, the members of this group have a higher level of development with regard to their financial institutions (average of 0.07) as compared with their financial markets (average of 0.02).

FIGURE A.1. Financial development in Asia and the Pacific, by country, 2014



Source: ESCAP based on data from Svirydzenka, K. Introducing a new broad-based index of financial development. IMF Working Paper 16/5. Washington D.C.: International Monetary Fund. 2016.

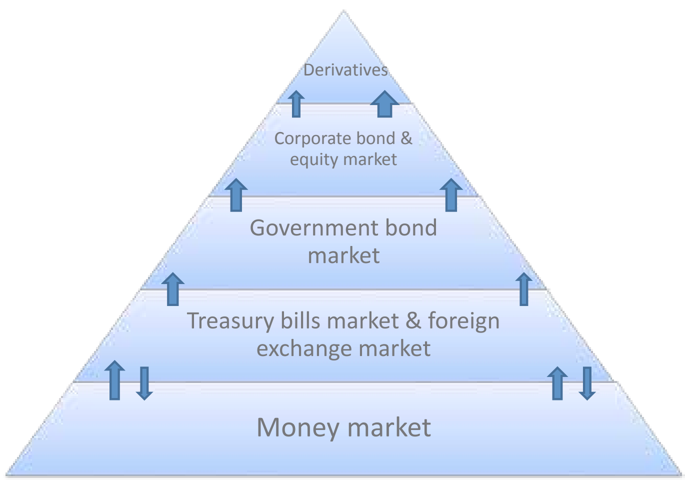
III. SEQUENCING APPROACH TO FINANCIAL MARKET DEVELOPMENT

Capital markets are not developed overnight but through an iCapital markets do not developed overnight. They do so through an incremental process, as described below. This process has been observed in the region in countries such as Viet Nam, Indonesia and the Philippines, where a government bond market was established before the corporate bond market. This incremental process means that each country should follow a strategy based on its current market development stage.

Typically, the money market, which trades very short-term debt securities usually issued by governments and financial institutions, is established before other segments because of its central role in price discovery and interest rate setting. Money markets are the medium through which central banks intervene and financial institutions manage their liquidity by lending and borrowing to and from each other. The foreign exchange market shares a lot of similarities with the money market except that each transaction involves the exchange of local and foreign currency.

The different market segments are, however, interrelated. For instance, a liquid money market relies on adequate depth in government bonds as bonds are typically used as collateral in interbank lending (repurchasing agreements). A well-developed government bond market also works as a catalyst for establishing an appropriate bond market infrastructure, which facilitates the development of other fixed income markets, and the government bond yield curve serves as a price reference for corporate bonds. Finally, the development of derivative markets requires well-developed bond and equity markets, as they constitute the underlying assets of derivative instruments.

FIGURE A.2. The hierarchical order of financial markets



Source: ESCAP.

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With a combined GDP of US$27 trillion that is growing rapidly, Asia and the Pacific is well on its way to becoming the most important market in the world, opening possibilities for further expansion of trade and investment within the region. This could contribute to job creation, poverty reduction and the boosting of economic growth throughout the region. But to take advantage of such opportunities the region needs to enhance its regional economic cooperation and integration (RECI).

This report presents the views of the ESCAP secretariat on how to advance the RECI agenda in the region to support the implementation of the Bangkok Declaration on Regional Economic Cooperation and Integration in Asia and the Pacific adopted in December 2013. The RECI agenda set in the Bangkok Declaration includes four pillars: market integration, seamless connectivity, financial cooperation, and addressing shared vulnerabilities and risks.

The report emphasizes that greater regional economic cooperation and integration (RECI) can offer solutions to the pervasive problems of poverty and inequality facing the Asia-Pacific region that are at the core of the 2030 Agenda. As several of the Goals are transboundary in nature, effective action requires a regional approach, drawing on regional cooperation and cross-border solutions to complex challenges, such as climate change, disaster risk reduction, ecosystem and natural resource management, and sustainable energy. The report also underscores that to deliver the best results for the region, the four pillars of RECI need to be simultaneously developed in an integrated manner.

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