



# Eradicating Poverty and Promoting Prosperity in a Changing Asia-Pacific



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# Eradicating Poverty and Promoting Prosperity in a Changing Asia-Pacific



**Asia-Pacific**  
SDG Partnership

# Eradicating Poverty and Promoting Prosperity in a Changing Asia-Pacific

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# Foreword

The theme of the 2017 High-level Political Forum on Sustainable Development is “Eradicating poverty and promoting prosperity in a changing world”. These are timely issues for countries in Asia and the Pacific to focus on.

Overall, the region has made impressive gains in reducing income poverty in recent decades. Nevertheless, too many people across the Asia-Pacific region still confront poverty as part of their daily life. Some 400 million people, almost one in ten, live in extreme income poverty. One in four people in the developing countries of the region are deprived in additional ways that impact their health, education and standard of living and increase the likelihood that all people in the region will not benefit from shared prosperity.

As the development context of our region changes, the relationships between and among governments, the public, the private sector and other players are evolving. Relationships between countries are also changing, and there is evidence to suggest that gaps between the poorest countries in the region and middle-income countries may be growing.

This report highlights three key entry points for addressing poverty and expanding prosperity in the region: through pro-poor urbanization, effective management of rural–urban transitions with a focus on rural development, and enabling investment in sustainable and equitable infrastructure. Although people in extreme income poverty are more likely to live in rural areas, they are also increasingly found in our cities and peri-urban areas. The provision of high-quality, low-carbon and resilient infrastructure, with emphasis on meeting the last-mile needs of the poorest, will be essential and requires a paradigm shift in planning and design.

Our analysis is set in the context of long-term trends in the Asia-Pacific region that will shape approaches to poverty alleviation and the prospects for achieving prosperity. These include increasing regional cooperation, growing urbanization, shifting demographics (including ageing in some countries and migration), growing but uneven access to information and communications technology and the rising demand for natural resources.

Effective action on eradicating poverty requires tackling the systemic, sociocultural and geographic factors that underpin marginalization, exclusion and lack of protection for human rights. The number of people likely to be in vulnerable employment in the region is now greater than the global average, for example, and women are particularly affected. Measures to ensure that all people can benefit from growth in the region on an equal footing are needed.

By analysing the links between these trends and highlighting good practices, this report will provide useful input into regional and global dialogues, including at the upcoming High-level Political Forum on Sustainable Development and its preparatory events. Our three organizations are pleased to partner to support achievement of the 2030 Agenda at all levels of governance in our region, and we hope that this report provides useful insights into opportunities for making progress.

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# Abbreviations

<b>ADB</b>	Asian Development Bank
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>ESCAP</b>	United Nations Economic and Social Commission for Asia and the Pacific
<b>GDP</b>	gross domestic product
<b>ICT</b>	information and communications technology
<b>IWAG</b>	Integrity Watch for Water Anti-Corruption Group
<b>MPI</b>	Multidimensional Poverty Index
<b>PES</b>	payments for ecosystem services
<b>PPP</b>	purchasing power parity
<b>SDG</b>	Sustainable Development Goal
<b>UNDP</b>	United Nations Development Programme



# Explanatory notes

The Asia-Pacific region, unless otherwise specified, refers to the group of members and associate members of the Economic and Social Commission for Asia and the Pacific (ESCAP) that are within the Asia and the Pacific geographic region (the Asian Development Bank and the United Nations Development Programme, partners in this publication, have differing regional compositions). Some countries are referred to by a shortened version of their official name in the figures, as indicated in brackets in the listing below.

Geographic subregions in this report are defined (unless otherwise specified), as follows: **East and North-East Asia:** China, Democratic People's Republic of Korea (DPR Korea), Japan, Mongolia, Republic of Korea; **South-East Asia:** Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic (Lao PDR), Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam; **South and South-West Asia:** Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal, Pakistan, Sri Lanka, Turkey; **North and Central Asia:** Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan, Uzbekistan; **Pacific:** American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu.

**Least developed countries:** Afghanistan, Bangladesh, Bhutan, Cambodia, Kiribati, the Lao People's Democratic Republic, Myanmar, Nepal, Solomon Islands, Timor-Leste, Tuvalu and Vanuatu. Samoa was part of the group of least developed countries prior to its graduation in 2014; **landlocked developing countries:** Afghanistan, Armenia, Azerbaijan, Bhutan, Kazakhstan, Kyrgyzstan, Lao People's Democratic Republic, Mongolia, Nepal, Tajikistan, Turkmenistan and Uzbekistan; **small island developing States:** Cook Islands, Fiji, Kiribati, Maldives, Marshall Islands, Federated States of Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu and Vanuatu.

**Developing Asia-Pacific:** ESCAP region, excluding Australia, Japan and New Zealand.

**Developed or industrialized Asia-Pacific:** Australia, Japan and New Zealand.

## Economic classifications and groupings

The classification of countries into income groups is from the World Bank. The World Bank divides countries according to their 2015 gross national income per capita, calculated using the World Bank Atlas method. Group classifications are: low income (\$1,025 or less), lower-middle income (\$1,026–\$4,035), upper-middle income (\$4,036–\$12,475) and high income (\$12,476 or more).

**Low-income economies:** Afghanistan, Democratic People's Republic of Korea, Nepal; **lower-middle-income economies:** Armenia, Bangladesh, Bhutan, Cambodia, India, Indonesia, Kiribati, Kyrgyzstan, Lao People's Democratic Republic, Federated States of Micronesia, Mongolia, Myanmar, Pakistan, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Tajikistan, Timor-Leste, Tonga, Uzbekistan, Vanuatu, Viet Nam; **upper-middle-income economies:** American Samoa, Azerbaijan, China, Fiji, Georgia, Islamic Republic of Iran, Kazakhstan, Malaysia, Maldives, Marshall Islands, Palau, Russian Federation, Thailand, Turkey, Turkmenistan, Tuvalu; **high-income economies:** Australia, Brunei Darussalam, French Polynesia, Guam, Hong Kong, China, Japan, Macau, China, Nauru, New Caledonia, New Zealand, Northern Mariana Islands, Republic of Korea and Singapore.

## Other groupings

**Association of Southeast Asian Nations (ASEAN):** Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam;

**Economic Cooperation Organization (ECO):** Afghanistan, Azerbaijan, Islamic Republic of Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkey, Turkmenistan, Uzbekistan;

**South Asian Association for Regional Cooperation (SAARC):** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.

## Symbols and units

- References to dollars (\$) are to United States dollars, unless otherwise stated.
- The dash (–) between dates signifies the full period involved, including the beginning and end years.
- Percentages do not necessarily add up to 100 per cent because of rounding.
- “Tonnes” refers to metric tons.



# Executive summary

The 2030 Agenda for Sustainable Development provides a new framework that allows us to approach poverty and prosperity more holistically. This comprehensive understanding should inform national implementation planning efforts and regional cooperation initiatives. With its focus on the theme of the 2017 session of the High-level Political Forum on Sustainable Development—“Eradicating poverty and promoting prosperity in a changing world”, this first annual thematic report is produced to support discussions within the region and to inform implementation of the 2030 Agenda for Sustainable Development at the national level.

**More than one in ten people in Asia and the Pacific—some 400 million people—live in extreme income poverty. A much larger number—more than one in four people—in the region’s developing countries experience poverty in multiple dimensions.** The concept of multidimensional poverty enables a more complete grasp of the links between the Sustainable Development Goals (SDGs) and thus a more coherent and effective policy framework. In some countries, multidimensional and income poverty rates coincide, while in others, multidimensional poverty rates are either much higher or lower than income poverty rates. The structural factors that determine whether, and to what extent, people benefit from development need to be better understood. Both objective and subjective measures of human well-being help shape the efforts to expand prosperity and address fundamental and shared concerns, such as life fulfilment and social connection.

**The changing development context of the Asia-Pacific region presents new opportunities to reduce poverty and expand prosperity. Yet, there are growing risks that all people may not be able to participate in the economy on an equal footing or benefit from prosperity gains.** Transforming the futures of all people in this region will depend on the capacity of the governments to address the structural dimensions of marginalization, exclusion and inequality, whether within a country or between countries.

Regional economic integration, urbanization, demographic change, access to information and communications technology (ICT) and connectivity and the rising demand for natural resources are regional trends associated with changing economic structures, market forces and the flows of finance, information and natural resources. They are imposing new pressures and challenges to decision-making and resource allocation. Women and migrants in urban areas and impoverished rural households, all of whom daily deal with a convergence of risks, are likely to face heightened barriers to improving their situations. In this context, **public institutions must better equip themselves to balance and align the interests of different stakeholders.** The “reciprocal rights, obligations and responsibilities between states and citizens”—and among stakeholders, sometimes referred to as a social contract, will determine how equitably the interests of all people—particularly people who are most vulnerable—are identified, prioritized and balanced.

This report explores three entry points to the theme of poverty and prosperity: (i) managing urbanization for inclusive development, (ii) strengthening responses to rural poverty in the context of the rural–urban transitions and (iii) infrastructure development. Each area presents opportunities and challenges in a changing development context.

## Managing urbanization for inclusive development

More than half of the Asia and Pacific region’s population will reside in urban areas by 2018. Multidimensional poverty is already an important feature of these expanding urban landscapes—

almost 10 per cent of people living in urban areas live in multidimensional poverty.

**Urbanization has demonstrated a positive correlation with economic growth, helping millions of people move out of poverty. At the same time, urbanization processes have increased inequality, exclusion and risks.** The rural–urban transitions and demographic changes taking place across the region and their gendered dimensions have far-reaching implications for both rural and urban areas and for family structures and communities. Larger numbers of older people are living independently and are more likely to be women who are widowed, who are likely to spend a larger percentage of their lifetime with a disability and who are more than twice as likely to live in poverty. Opportunities presented by technological innovation and digital connectivity have benefited even the poorest of households, but these opportunities are not accessible to everyone. Cities are the hubs of regional integration processes and rising demand for natural resources and thus have also become a nexus of transboundary challenges, such as migration, crime, the spread of disease, climate change impacts and the increasing burden of waste.

Efforts to promote inclusive urbanization must successfully deal with inequality and exclusion, the increasing vulnerability of impoverished and slum populations, the increasing and more complex health risks and inadequate infrastructure and services.

**Urban areas are particularly vulnerable to shocks, crises and disasters. People who are poor, marginalized and vulnerable suffer disproportionately when calamity hits.** Although high densities of people, jobs and assets have positive impacts, urban areas also make populations extremely vulnerable to both natural and human-made risks. Marginalized groups, including migrants, tend to be the poorest and most neglected people in urban areas. Along with women and other vulnerable groups, their needs often go unrecognized and unmet. Inclusive and sustainable urban management needs to prioritize building the resilience of the most vulnerable strata of urban society.

Some cities are already leading the way on inclusive approaches to managing urbanization, including utilizing tailored measures of multidimensional poverty. There are also recognized limitations, ranging from political and fiscal power to weak institutional capacity. Addressing these governance dimensions, including through peer-to-peer networks, will be necessary to reduce poverty in urban areas.

**Focusing on the gendered aspects of migration in the region and on improving the well-being of women migrants in particular can help chip away at persistent poverty and inequality in rural and urban areas.** These groups often face the amplified effects of multidimensional poverty and thus require special attention in the urbanization process. Frequently due to a lack of options, migrants relocate to areas in cities where they lack access to basic services. Women in these areas who cannot access safe public transportation, for example, may also experience deprivation of health care, education and employment.

**Localizing the 2030 Agenda for Sustainable Development in cities can be an important opportunity to renew the social contract, re-envision urban governance and better include those who have been left behind.** The 2030 Agenda as well as the New Urban Agenda depend on a renewed social contract for their success. Both Agendas underline the need for inclusive and participatory approaches and partnerships. Cities have strong potential to adapt these Agendas to their context and to establish effective partnerships.

#### *Elements of a paradigm shift in urban development*

- Urban social protection programmes
- Adoption of multidimensional approaches to addressing poverty and using updated measurement tools, such as the Multidimensional Poverty Index
- Risk-informed urban planning
- Focus on marginalized and vulnerable groups, including women and migrants, and the gendered aspects of migration
- Examined and renewed social contracts emphasizing inclusive and participatory approaches and partnerships in the context of localizing the 2030 Agenda for Sustainable Development
- Policy links between urban and rural development strategies rather than adhering to an urban–rural dichotomy

## Strengthening responses to rural poverty in the context of the rural–urban transitions

More than half of the region’s total population lives in rural areas. And almost two in five people living in rural areas in developing countries live in multidimensional poverty, although there have been notable improvements in income poverty.

The 2030 Agenda highlights the need to increase investment in rural infrastructure and to support positive links among urban, peri-urban and rural areas by strengthening national and regional development planning. It also provides for the protection of natural ecosystems and biodiversity, which will contribute to attainment of the 17 SDGs and for which rural areas largely have a custodial role.

**Governments face severe political pressure due to agriculture’s declining share in gross domestic product value. While agricultural GDP value-added stood at 6.9 per cent in 2014, the sector employed 36 per cent of the region’s workforce and more than 60 per cent of the workforce in the least developed countries in 2013.** Economic structural changes mean that governments increasingly have to balance competing but equally important policy objectives with respect to food security, environmental sustainability and poverty reduction. The approach to these multiple policy objectives will determine the long-term development impact of rural–urban transitions.

### ***A more coherent response to rural development***

- Recognizing the diverse needs of rural households—on and off the farm
- Innovations in infrastructure provision and financing
- Community-based and participatory management
- Strengthening and protecting access to resources, and incentivizing sustainable management
- Establishing, strengthening and engaging farmers’ organizations
- Policy, research and investment to support sustainable agriculture and rural development
- Responsible agricultural investment
- Incentivizing sustainable management of natural resources

The response to the rural sector and to the role of agriculture in the context of the ongoing rural–urban transitions will be critical to the prosperity of all people in the region. Rural poverty eradication is inherently linked with urban poverty through the flows of people, natural resources, information and technologies. The rising demand for ecosystem services and natural resources is an emerging issue in rural land use. Demographic changes are leading to more fragile, vulnerable rural populations. Climate change and disasters already place a heavy burden on the agriculture sector and threaten rural livelihoods. And cross-border investments

and agricultural corporatization often offer only limited benefits for rural populations. These trends exacerbate the lack of access to and ownership of land, which is particularly constrained for women and indigenous peoples. Demographic changes and the rural–urban transitions are also prompting the ageing and feminization of agriculture, which will have long-term consequences unless the gender inequalities are resolved (for instance, the yield gap between male and female farmers is directly attributable to differences in access to economic resources).

**Strengthened responses to rural poverty require policy interventions to support innovations in infrastructure provisioning and financing, community-based and participatory management approaches, farmers’ organizations, policy research and investment in sustainable agriculture and rural development as well as in the sustainable management of natural resources.**

A focus on the agriculture sector must be reinforced with investment in agricultural resources and development, which is increasingly critical for poverty reduction. Public sector spending on agriculture is not commensurate with agriculture’s overall importance for securing food security for all people. In fact, the regional average for agricultural spending relative to agricultural GDP lags behind other regions.

Coherence of rural policy solutions with national macroeconomic, social and environmental policies and international agreements is critical. There are opportunities for strengthening the social contract with

rural people through a better understanding of the drivers of rural poverty and the diversity of needs in the rural sector and through a shared vision for sustainable rural communities.

## Infrastructure development—Building for tomorrow

Although significant progress has been made in expanding infrastructure within the region, basic needs remain unmet. Future demand for infrastructure will be substantial. Concerted efforts are needed to cover the last mile in clean energy, safe water and sanitation and digital connectivity infrastructure for hundreds of millions of unserved people.

**Transitions in Asia and the Pacific are shaping the infrastructure needs and demands.** Infrastructure investment projections for the region indicate a need of more than \$26 trillion, or about \$1.7 trillion per year, equivalent to 5.9 per cent of forecasted GDP. Governments already have a central role in financing infrastructure in the region, providing more than 90 per cent of finance to date. But it is frequently not sufficient.

The costs of closing the gaps in access to basic infrastructure are likely a modest share of this total projected investment. There are particular challenges, however, in raising and directing finance to close the gaps in access to basic infrastructure as well as for raising the quality and sustainability of infrastructure.

There are promising technological innovations, particularly in the areas of energy and ICT, that can more quickly narrow the access gaps and at lower cost than previously.

Infrastructure has an imperative role for rural and urban communities, connecting and enabling the two-way movement of people, information and opportunities. Basic infrastructure services, such as water and sanitation, are sorely inadequate in many urban areas, and the quality and environmental sustainability of energy and transport infrastructure urgently needs to be improved. At the same time, however, the largest number of people without access to infrastructure services, such as electricity, better drinking water and the internet, live in rural areas. Integrated approaches to infrastructure planning that consider the rural–urban links and approaches to meet the differing needs of stakeholders can help countries better manage the rural–urban transitions.

### *Delivering infrastructure for sustainable development*

- Cover the last mile in clean energy, safe water and sanitation and digital connectivity infrastructure needs
- Promote better-quality, low-carbon, resilient and environmentally sustainable solutions
- Diversify financing sources and approaches
- Strengthen governance, including through better planning, sound policies and regulations

**Continued innovation in financing will be needed.** The implications for financing infrastructure delivery encompass mobilizing the funds, building meaningful public-private partnerships and reconciling project and investors' needs. New business models as well as new approaches to attract financing from a wider range of investors will be necessary. Access to concessional and risk-tolerant finance can facilitate these efforts.

**Strengthened governance encompassing institutions, rules and processes, backed by a capable public sector, will be vital for the structure and oversight of equitable and efficient infrastructure that maximizes social gains and long-term sustainability imperatives.** Delivering infrastructure that will contribute towards poverty and prosperity gains in the context of the SDGs will involve enhancing the planning and selection of projects, managing the environmental and social impacts (including through incentives for service delivery that supports environmental and social objectives) and providing more effective oversight.

## In conclusion

The exploration presented through this report ultimately emphasizes how policy coherence is critical and how a multidimensional understanding of poverty and prosperity is foundational to that coherence. It also offers insights into how policy coherence through the SDGs can create opportunities for making progress on the subset of goals that are the focus of the 2017 session of the High-level Political Forum on Sustainable Development.

As the development context changes, the ability of economic and political systems to equitably fulfil the aspirations of all people, including future generations, will be increasingly challenged. **Public institutions must better equip themselves to better balance and align the interests of different stakeholders.**

Many of the examples highlighted in the report work towards strengthening the social contract and provide opportunities for innovative partnerships that enable solutions for poverty eradication and the better sharing of prosperity. Political commitment and allocation of resources as well as institutional support for tackling marginalization and exclusion, including through the protection of human rights, are needed.

The widening gaps between countries jeopardize prosperity in all countries. **Regional solidarity and cooperation will be essential to overcome the significant lags in progress by the countries with special needs to ensure that opportunities presented by the cross-border dimensions of regional trends have positive impacts.** The transformation of the region based on mutual responsibility and accountability for the shared progress of all people, in all countries, should be an intrinsic part of the response to the 2030 Agenda.

Cooperation at the regional level is needed on trade, migration, decent work and responsible cross-border investments in the agriculture sector. It is also needed for infrastructure financing, in particular for ICT access, transport and renewable energy.

Regional cooperation should also focus on strengthening national statistical systems and innovations in data collection, especially in the context of an expanded understanding of multidimensional poverty and prosperity. There are diverse and extensive needs for disaggregated data and for data and information that promote strengthened policy coherence. Knowledge partnerships at the regional and subregional levels will be essential for collective learning and implementation.







# **CHAPTER 1**

## **Poverty and prosperity in Asia and the Pacific**



## 1.1 Introduction

Eradicating poverty and building prosperity within planetary limits is the central challenge of the new development agenda. That challenge also requires that the future of all people—in particular, those who are most deprived of a decent standard of living—be transformed for the better, within a generation.

This transformation should be within reach for the Asia and Pacific region. After all, the region begins that journey with a positive record of achievement, including considerable gains in poverty reduction and favourable economic, social and political changes. This report explores that potential as it reflects on the theme of the 2017 session of the High-level Political Forum on Sustainable Development on “Eradicating poverty and promoting prosperity in a changing world”.

Providing an overview of poverty and prosperity in Asia and the Pacific, this report considers five regional megatrends: regional economic cooperation and integration; rural–urban transitions; demographic changes; information and communications technology (ICT) access and connectivity; and increasing demand for natural resources.

The report looks at the risks and opportunities presented by these trends. It points to promising responses through three interlinked entry points for this agenda: (i) realizing the promise of urban development, (ii) strengthening responses to enduring rural poverty and (iii) providing sustainable infrastructure.

The discussion offered is intended to inform regional dialogue and promote coherent policy frameworks for eradicating poverty and promoting prosperity in Asia and the Pacific. It also can support governments’ implementation efforts at the start of the 2030 Agenda for Sustainable Development,<sup>1</sup> including through the Sustainable Development Goals (SDGs) to be discussed at the High-level Political Forum on Sustainable Development in 2017.<sup>2</sup>

## 1.2 An overview

The Asia and Pacific region covers 56 countries that are home to more than 60 per cent of the global population and that together produce almost 40 per cent of the world’s gross domestic product (GDP).<sup>3</sup> Twelve countries have least developed status, and only three are industrialized.

Despite persistent poverty, people in the region generally have a better quality of life, more purchasing power and better access to transport and modern energy services than they did previously. At least 21 countries have increased their social protection spending as a share of total government expenditures over the past two decades,<sup>4</sup> and debt-to-GDP ratios are declining, signalling better fiscal management.<sup>5</sup>

The 2030 Agenda speaks to a future in which all people, not just the wealthy strata, can enjoy “prosperous and fulfilling lives”, and progress is “in harmony with nature”.<sup>6</sup> Specifically, SDG 1 emphasizes the eradication of poverty “in all its dimensions”.<sup>7</sup> The scope of the challenge cannot be underestimated.

Economic growth is slowing, and as poverty rates fall, each dollar invested in poverty eradication has declining impact.<sup>8</sup> Thus, progress in poverty reduction may be harder to achieve because what remains is more entrenched.

The region is lagging in comparison to other parts of the world (with the exception of Europe) on human capital development,<sup>9</sup> despite years of rapid economic growth. Among other threats, climate change, which influences economic, social and environmental changes across the region, is threatening livelihoods and creating “instant” poverty when an extreme weather event takes place.

The report thus begins with an emphasis on how understanding poverty and prosperity from multiple perspectives makes for more effective strategies. And as this section also underscores, fundamental to the implementation of the 2030 Agenda is the urgent need to recognize and confront the factors that drive inequality, marginalization and exclusion.

## Income poverty

According to the latest data, some 400 million people, or around 10.3 per cent of the region's population, were living in extreme income poverty between 2010 and 2013.<sup>10</sup> The region's extremely poor populations accounted for some 52 per cent of the world's extremely poor people during 2010–2013, down from 65 per cent of the total during 2000–2004.

Overall, regional per capita income is converging with the global level,<sup>11</sup> but the income gap between countries is growing. Just over 50 per cent of extremely poor people in the world lived in the region in 2010–2013 (figure 1.1). South and South-West Asia now make up more than 75 per

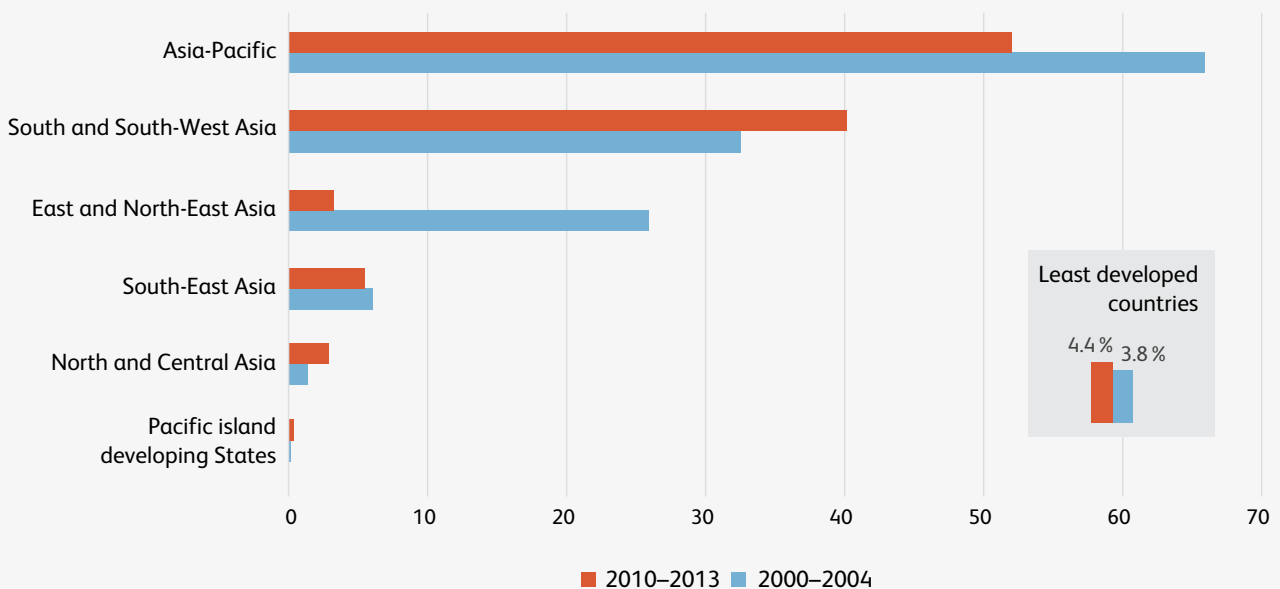
cent of the region's impoverished people (figure 1.2), and with the groups of least developed countries and small island developing States (Pacific), are falling further behind (figures 1.3a, 1.3b and 1.3c).

Figure 1.3a and figure 1.4 show that there are several countries with high poverty rates, based on data for both international and national poverty lines.<sup>12</sup>

National information on income poverty is only part of what is needed to build effective poverty reduction strategies. The importance of subnational and disaggregated statistics needs to be emphasized, and it must be assessed in tandem with data on other dimensions of poverty.

Figure 1.1

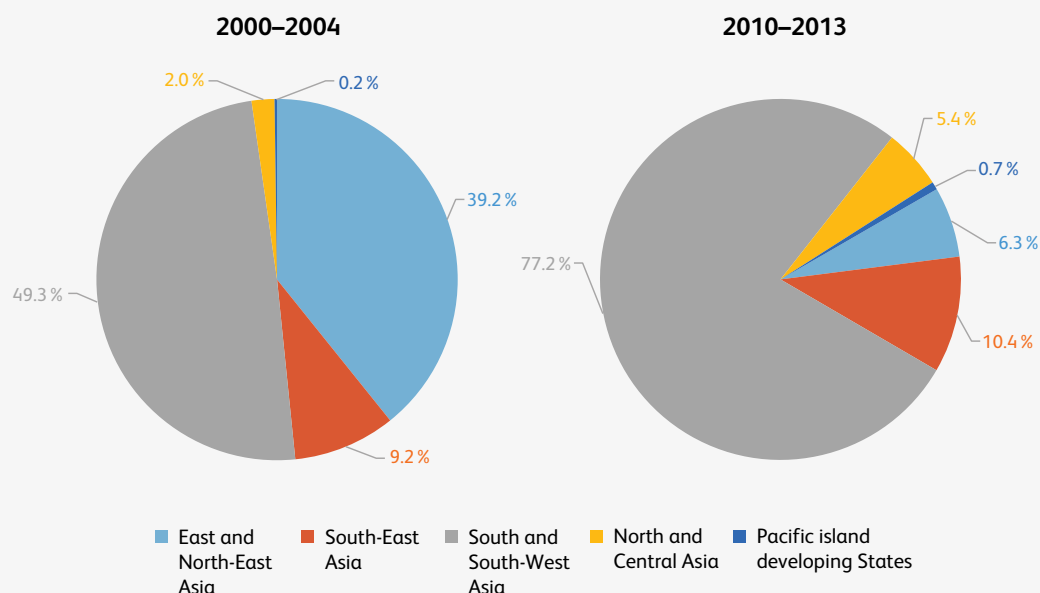
### Share of extremely poor people in the world, 2000–2004 and 2010–2013 (percentages)



Source: ESCAP, Statistical Database, based on World Bank, Development Research Group, <http://data.unescap.org> (accessed 15 December 2016).

Figure 1.2

Share of the Asia-Pacific population living on less than \$1.90 per day (2011 PPP), by Asia-Pacific subregions, 2002–2004 and 2010–2013 (percentages)



Source: ESCAP, Statistical Database, based on World Bank, Development Research Group, <http://data.unescap.org> (accessed 15 December 2016).

## Other dimensions of poverty

Measures that capture other dimensions of poverty, such as education, health and living standards, have been developed. The global Multidimensional Poverty Index (MPI) recognizes that poverty goes beyond inadequate income to include deprivation of basic human capability.<sup>13</sup> It assesses the scale of multidimensional poverty based on the number of people experiencing several dimensions of deprivation simultaneously.<sup>14</sup>

Based on the global MPI, more than one in four persons in developing countries in the region are deprived in multiple ways, or as it is characterized, “living in multidimensional poverty”. In rural Asia and the Pacific, the rate doubles to two in five people. In South Asia, 86.3 per cent of people living in multidimensional poverty are located in rural areas. Eight of the ten countries with the highest rates of multidimensional poverty in the Asia-Pacific region have least developed status.<sup>16</sup>

MPI assessments propose that people who are destitute endure a combination of severe deprivations, for example, a situation in which no one in the household has at least one year of education, two or more children have died, there is severe malnutrition of an adult or child, no access to electricity or to sanitation, access to safe drinking water only at a distance of more than 45 minutes’ walk, cooking with biomass fuels and/or where no material assets are possessed.<sup>15</sup>

Multidimensional poverty is not strongly correlated with income poverty.<sup>17</sup> Poverty reduction strategies that focus exclusively on increasing income can therefore miss important parts of the picture. Some countries have relatively low income poverty rates but, at the same time, relatively high rates of multidimensional poverty, such as Bhutan, Cambodia and Pakistan (figure 1.5). The hurdles for these countries will be different than for countries that are experiencing income and multidimensional poverty that are both

Figure 1.3a

**Share of population living on less than \$1.90 a day (2011 PPP, percentages), 2000–2004 and 2010–2013**

- Asia-Pacific countries

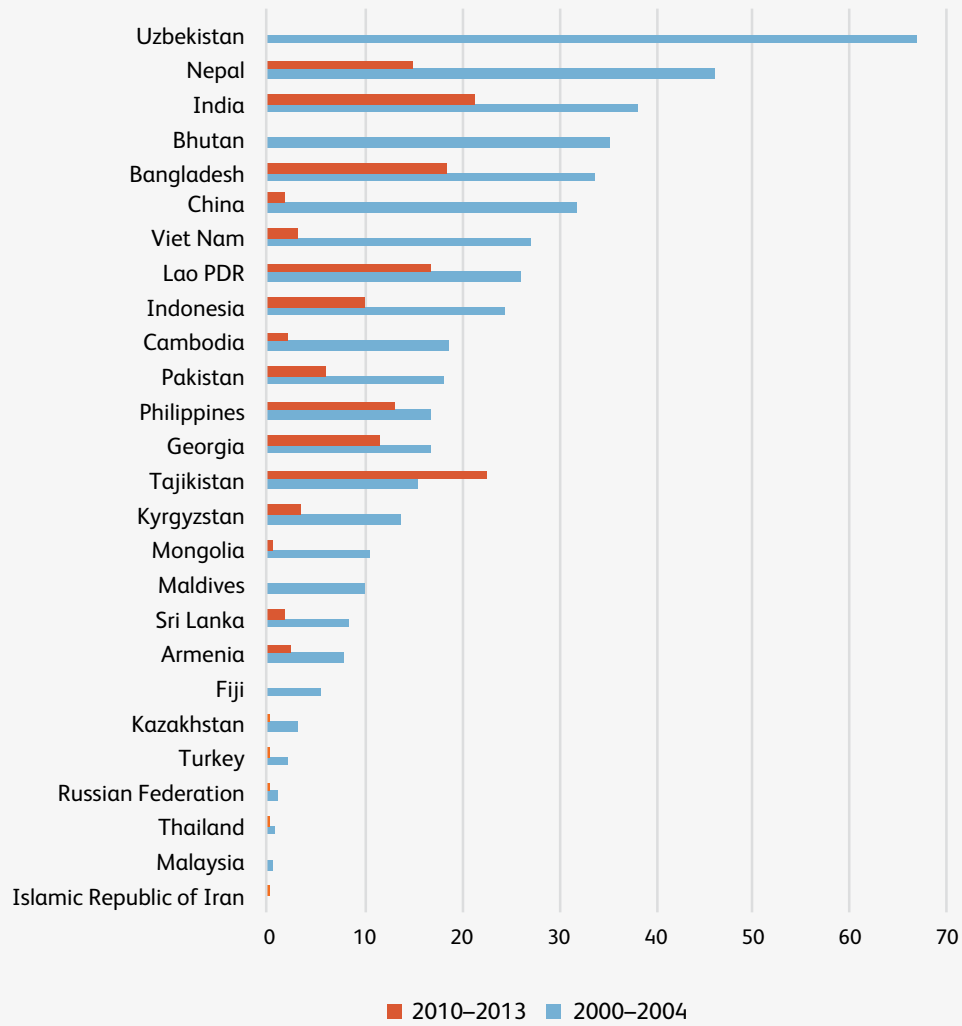


Figure 1.3b

- Country groupings by income and development status

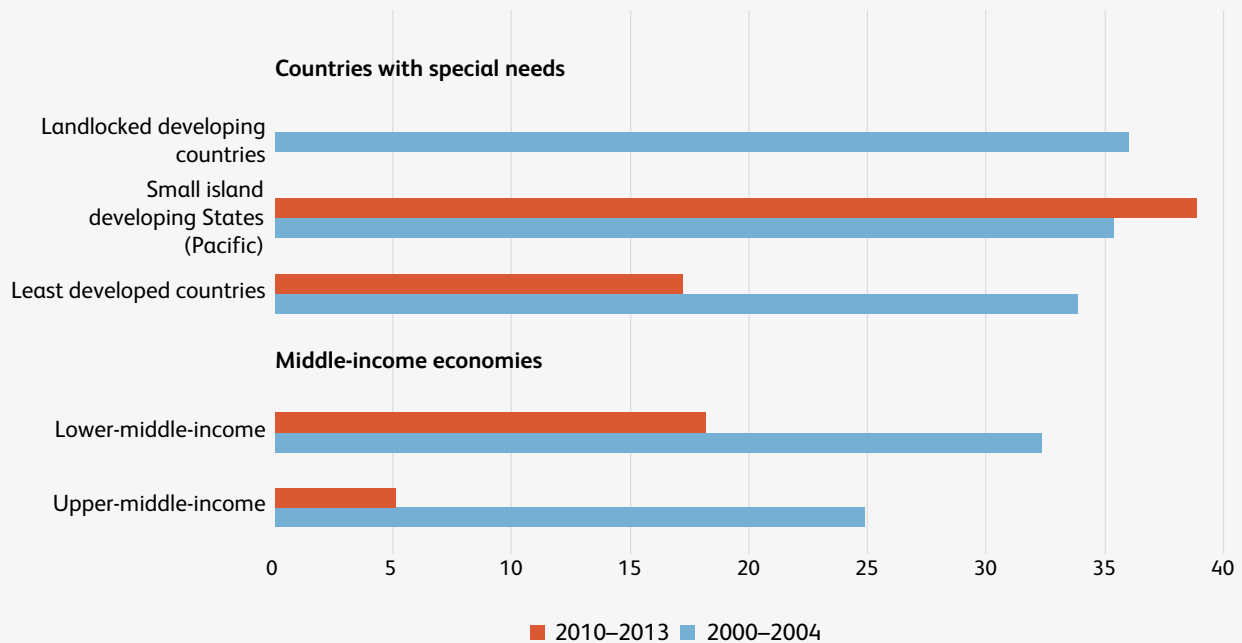
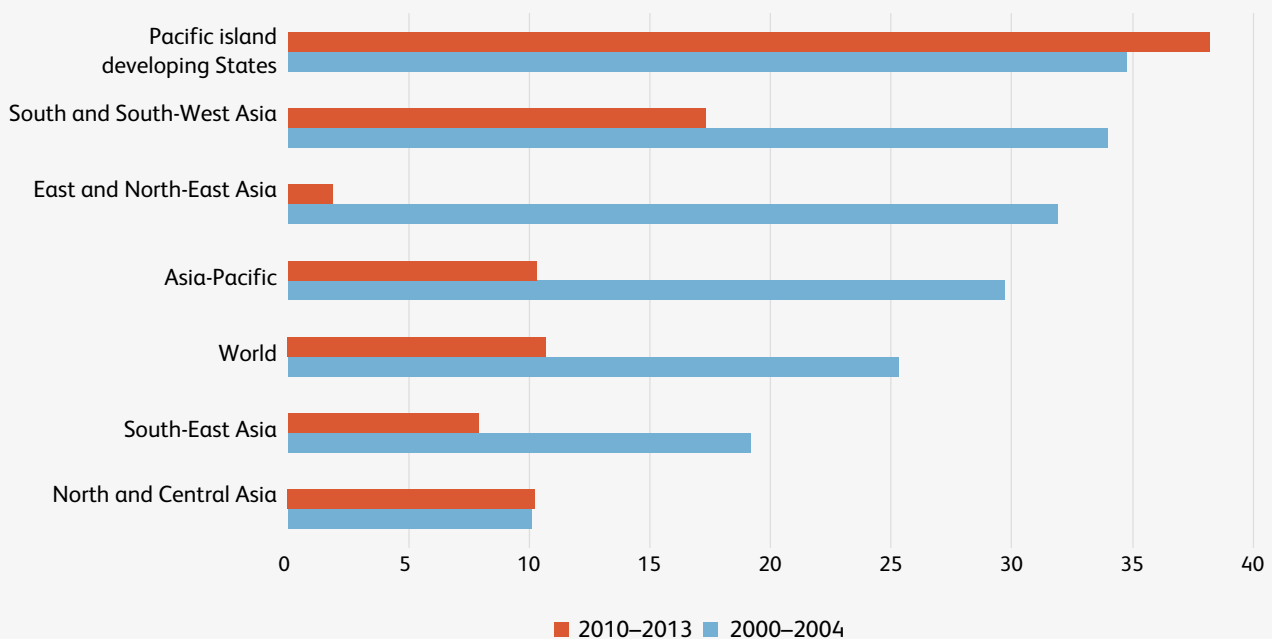


Figure 1.3c

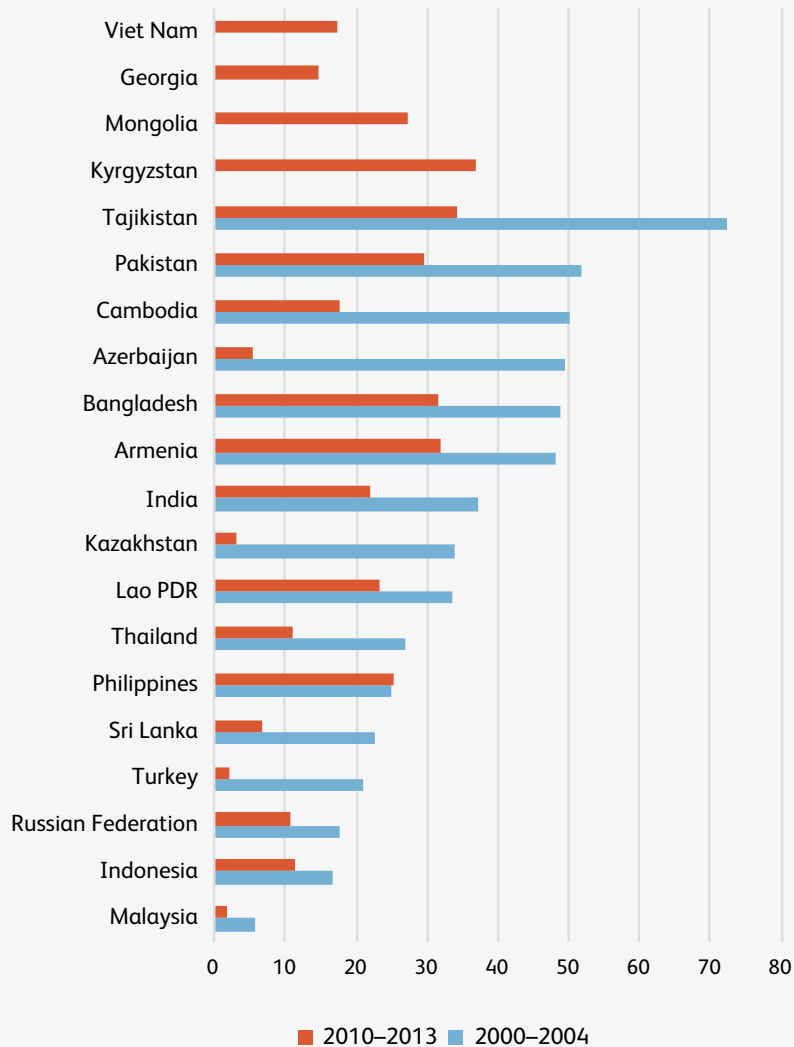
- World, Asia and Pacific, and Asia-Pacific subregions



Source: ESCAP, Statistical Database, based on World Bank, Development Research Group, <http://data.unescap.org> (accessed 15 December 2016).

Figure 1.4

**Share of population living on income less than the national poverty line, by country  
2000–2004 and 2010–2013**



Source: ESCAP, Statistical Database, based on World Bank, Development Research Group, <http://data.unescap.org> (accessed 15 December 2016).

widespread and severe,<sup>18</sup> such as Afghanistan, Bangladesh, India, the Lao People’s Democratic Republic, Nepal, Timor-Leste and Vanuatu (figure 1.6).

Similarly, poverty-eradication strategies in these countries will differ from those deployed in such countries as Azerbaijan and the Maldives, where multidimensional poverty is severe but only affects a relatively small proportion of the population.

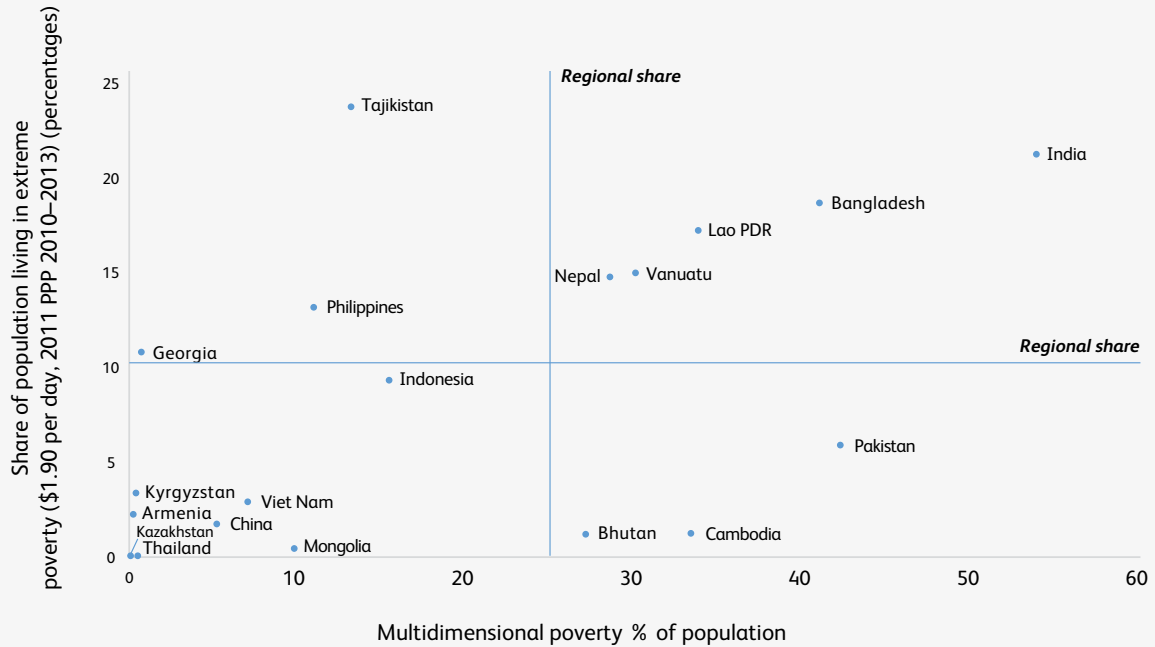
Poverty-eradication strategies also should be informed by an understanding of how much education, health status or living standards contribute to the overall level of multidimensional poverty and how this differs from place to place. This is where a multidimensional poverty assessment is particularly useful.

Poverty-eradication strategies also should be informed by an understanding of how much education, health status or living standards,



Figure 1.5

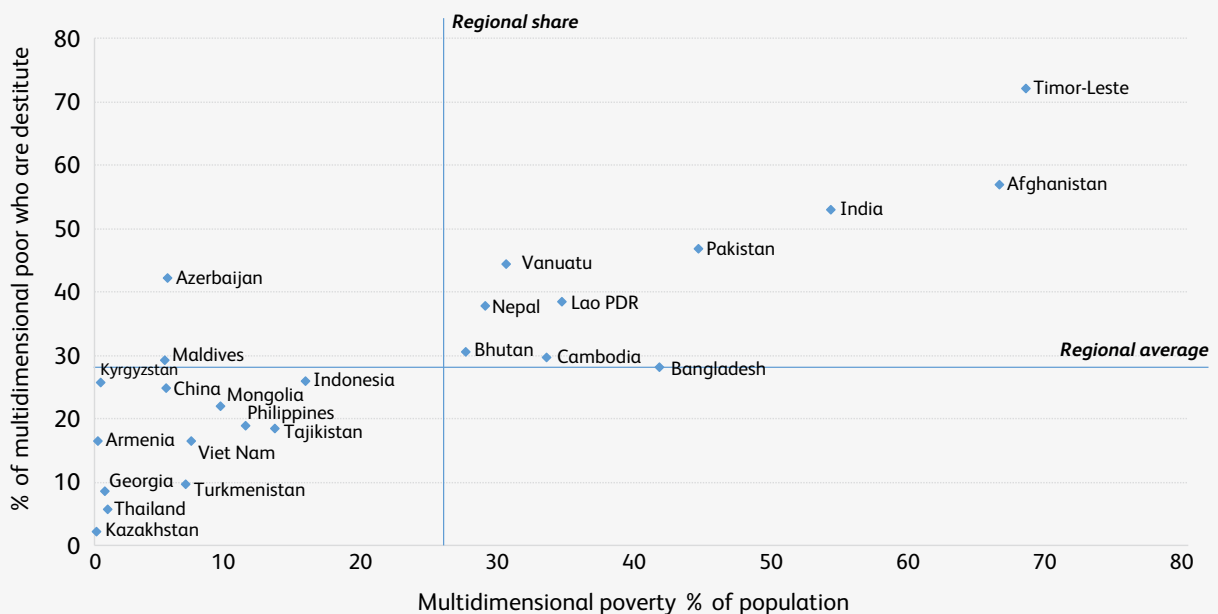
Income poverty and multidimensional poverty, Asia-Pacific countries



Source: Based on data from Alkire, and others, 2016; and ESCAP, ESCAP Statistical Database, based on World Bank, Development Research Group, [www.unescap.org/stat/data](http://www.unescap.org/stat/data) (accessed 15 February 2017).

Figure 1.6

Severity and prevalence of multidimensional poverty, Asia-Pacific countries



Source: Data from Alkire, and others, 2016.

contribute to the overall level of multidimensional poverty and how this differs from place to place. This is where a multidimensional poverty assessment is particularly useful.

While low education levels strongly correlate with chronic conditions of poverty, health status risks and food security are associated with both chronic and transient poverty. Health crises reduce work productivity and increase the risk of poverty.

The food crisis that emerged in 2008 and its impact on the poorest households in the region was a strong warning to governments to remain especially vigilant regarding food security. The incidence of hunger has fallen much more slowly than income poverty across the region, particularly in South Asia, and the numbers of undernourished people has increased as populations have grown. The poor pay a large proportion of their income—up to 70 per cent—on food. Unstable prices in the late 2000s substantially eroded the purchasing power of households and undermined gains in poverty reduction. Poverty reduction, therefore, requires a stable supply of affordable, nutritious and safe food. Ensuring that the agriculture sector and other supportive economic activity, including transport services, for example, can deliver this supply should be an intrinsic component of any poverty eradication strategy.<sup>19</sup>

### Inequality, marginalization and exclusion

More than 60 per cent of the region's population lives in countries in which income inequality is increasing. Income inequality, as measured by the Gini Index or the Palma Index, remains stubbornly high (above the world average) and has increased in China, India, Indonesia, the Philippines and the Russian Federation, among other countries.<sup>20</sup> On the other hand, in 14 of the 21 countries where data are available,<sup>21</sup> inequalities are decreasing; household expenditure or income per capita among the bottom 40 per cent of the population grew faster than the overall per capita expenditure or income growth rates.<sup>22</sup> Malaysia, Thailand and Turkey have some of the highest rates of inequality (for countries with data), as measured by the Palma Index, even though inequality is on the decline within their borders.<sup>23</sup>

Like poverty, inequality is multidimensional. Income inequality as a sign of “inequality of outcome” is only part of the picture. Two other forms of inequality have important implications for poverty and prosperity: inequality of opportunity, in which not all people have equal chance at life fulfilment (education and health status access are major determinants); and horizontal inequalities, which describes the degrees of inclusion of different groups in society relative to each other.<sup>24</sup> Different dimensions of inequality reinforce each other and together create a situation in which specific groups are marginalized or excluded from full participation in society and the economy. Marginalized and excluded groups have reduced access to economic resources, experience discrimination and harassment and are unsupported by economic, sociocultural, political and institutional factors<sup>25</sup> that shape legal identity, political influence and access to education, health care, social protection and financial services.

Inequality, marginalization and exclusion are heavily gendered and create vulnerabilities. Oppressive gender stereotypes and inequality in access to resources, health services, participation and economic power are the shared experiences of women and girls across the region.<sup>26</sup> One in three women globally are subject to violence, and this figure rises to more than 40 per cent in South-East Asia—the highest among the global regions.<sup>27</sup>

Inequality, marginalization and exclusion also touch on fundamental issues of identity that particularly affect minorities,<sup>28</sup> including ethnic, religious or linguistic minorities, as well as those who are discriminated against due to their sexual orientation or gender identity. Some 70–80 per cent of an estimated 370 million indigenous peoples in some 70 countries across the world are found in Asia and the Pacific.<sup>29</sup>

All forms of discrimination impact the ability of people to reach their full potential. Social stigma and low levels of investment in social protection and in the active participation of persons who live with a disability<sup>30</sup> mean that persons with disabilities are largely shut out of labour markets and have little access to education, vocational training and decent work. A disability situation is found more often in poor households than in

non-poor households;<sup>31</sup> in Viet Nam in 2011, for example, the poverty rate among households in which someone lived with a disability was higher than in other households, at 20.1 per cent, compared with the overall poverty rate of 15.7 per cent.<sup>32</sup> Persons with a disability are more likely to be women than men; in Bangladesh, 23 per cent of women live with a disability, compared with 10 per cent of men. Disability is often found in higher frequency in rural than in urban areas.<sup>33</sup>

### *Inequality, vulnerability and employment*

Marginalization and exclusion promotes situations in which people are only likely to access the least desirable of economic opportunities and on unfavourable terms, such as in vulnerable employment, where they are subject to discrimination, receive insecure and inadequate earnings and endure difficult work conditions. Some of the worst forms of marginalization and exclusion are a manifestation of weak frameworks for the recognition and protection of human rights.

The Asia-Pacific region has the largest number of victims of forced labour, at 11.7 million people in 2012. An estimated 83 per cent of victims of human trafficking in the region are women or girls, compared with 60 per cent globally. Forty per cent of victims in South Asia and 30 per cent in East Asia are children.<sup>34</sup>

Income inequality “has been perpetuated in the region through persistent and vulnerable employment”.<sup>35</sup> The share of vulnerable workers declined across the region between 1991 and 2012. But at 59.7 per cent in South-East Asia and the Pacific and 76 per cent in South Asia, it remains substantially higher than the global share of 48 per cent.<sup>36</sup> In every subregion, women are more likely to be in vulnerable employment than men; and that share in each subregion is substantially larger than the global share of 49.3 per cent. In South Asia, 81 per cent of women workers are in vulnerable employment. Vulnerable employment includes informal employment,<sup>37</sup> which comprised half to three-quarters of all non-agricultural employment in developing countries in 2016 (which is characteristic of agricultural employment).<sup>38</sup>

A recent report from a United Nations Special Rapporteur on the rights to freedom of peaceful assembly and of association underlined that, globally, there has been a lack of “even the minimum exercise of workers’ rights, disenfranchising millions of workers, including migrant workers. This exacerbates global inequality, poverty, violence, child and forced labour, and directly contributes to problems, such as human trafficking and slavery”.<sup>39</sup>

### *Marginalization and exclusion at different stages of life*

For youth, lack of access to education increases the risk of poverty. Where employment opportunities fall short of demand in terms of numbers or quality, youth risk marginalization and exclusion as they age. Although youth unemployment rates are among the lowest in the world, young people in the labour force are 3.8 times more likely to be unemployed than their adult counterparts in the region. The youth working poverty rates are also higher.<sup>40</sup>

Labour force participation among older men in developing Asian countries for which data are available is declining, while that of older women is increasing. The limited available data also suggest that poverty rates among older people tend to be higher than other age groups.<sup>41</sup> In older age, social capital, family support and social protection increases in importance for dealing with the risks of poverty presented by the inability to work or due to health crises. However, despite the social protection schemes in place, relative poverty rates of people aged 65 or older reached 49.6 per cent in the Republic of Korea (the highest rate of member States in the Organisation for Economic Co-operation and Development (OECD)) and 19.4 per cent in Japan (seventh in the OECD) in 2014—far higher than the OECD average of 12.4 per cent.<sup>42</sup>

### *Migrants and refugees*

In 2013, the top-five emigration<sup>37</sup> countries were (in order) India, Bangladesh, Pakistan, Afghanistan and Nepal. The largest number of immigrants were received in India, Pakistan, Bangladesh, Nepal and Sri Lanka.<sup>43</sup>

Only a few countries in Asia and the Pacific, none of which are major countries of destination for migrants, have signed, ratified or acceded to the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families. The provisions of the Convention are “routinely ignored”.<sup>44</sup> The number of low-skilled and semi-skilled migrants for employment from Asian and Pacific countries increased by almost 50 per cent between 1990 and 2013, to more than 95 million.<sup>45</sup>

Depending on the policies and economic contexts, labour migration has had different outcomes for migrants and national populations in both origin and destination countries. Even where there is comprehensive policy and administrative agreements between countries, there is varying success. Private actors are taking an increasing role in managing the cumbersome administrative processes, but they sometimes are creating exploitive conditions that, in extreme cases, constitute human trafficking, with women at particular risk.<sup>46</sup>

“People of concern” to the United Nations High Commissioner for Refugees are among the most marginalized and excluded of groups and number some 9.8 million people in the region, including 2.9 million internally displaced persons and 1.5 million stateless people.<sup>47</sup> As many as 5.4 million refugees in the region in 2014 constituted 40 per cent of the global refugee population.<sup>48</sup> The Islamic Republic of Iran, Pakistan and Turkey, together, hosted almost 30 per cent of all refugees worldwide in 2014.<sup>49</sup>

### *Geographic dimensions*

Marginalization and exclusion also have geographic dimensions. In the Pacific island developing countries, for example, access to basic social services is limited for populations living on the outer islands. Landlocked developing countries deal with relatively greater challenges in accessing economic opportunities from trade, among other hurdles, while rural areas or mountain communities are often underinvested in terms of infrastructure development or provision of services.

## Human well-being

Human well-being is an important focus of SDG 3 (on good health and well-being). It speaks to the vision of a world in which “all life can thrive”<sup>50</sup> and includes both material and non-material dimensions, such as health (physical, mental and emotional), being able to participate in community life and having a life purpose.

The Human Development Index provides an objective measure of “a long and healthy life, access to knowledge and a decent standard of living.”<sup>51</sup> Despite improvements in 20 Asian and Pacific countries in 2014, as many as 19 were still below average in terms of well-being, according to their ranking on the Human Development Index.<sup>52</sup> In 15 countries, there were declines or no change as of 2014, relative to other countries.<sup>53</sup> UN-Habitat’s City Prosperity Index proposes objective well-being measures that are most relevant to the urban context.<sup>54</sup>

Insights into life satisfaction, happiness, life purpose and other non-income and non-material factors are fundamental to understanding the subjective human experience and the overall impact of development strategies. Determined via subjective measures based on an individual’s self-assessment, different frameworks show that, in general, only a few Asian and Pacific countries indicate relatively high levels of subjective well-being.<sup>55</sup> Conclusions from a global assessment of subjective well-being in five areas (life purpose, financial, social, community and physical)<sup>56</sup> suggest that, based on a survey of a limited number of countries in Asia and the Pacific, people in this region are less likely thriving in relation to life purpose and social well-being than the world population generally. Only five of the region’s countries are among the top 50 countries in terms of a global happiness ranking, while the majority of Asian-Pacific countries for which there are data (some 24 countries) are ranked between 50th and 121st.<sup>57</sup>

Subjective measures of well-being show that income does not always translate into human well-being. A greater policy focus on subjective well-being is important for strengthening individual and community resilience<sup>58</sup> as an important dimension of prosperity. Bhutan uses its own subjective well-being measure—the

Gross National Happiness Index—to guide its policymaking and investments. The World Health Organization's Quality of Life index presents a framework that includes both subjective and objective measures suitable for cross-cultural contexts and adaptable for specific groups of people and countries.<sup>59</sup>

### 1.3 A changing development context

The experience of the converging food, fuel and energy crises of 2008–2009 is a constant reminder to keep an eye on the horizon for emerging challenges. Five important and linked megatrends are shaping the current status of and outlook for poverty and prosperity in the region: regional economic cooperation and integration; rural–urban transitions; demographic change; ICT access and connectivity; and, increasing demand for natural resources.

Effective, long-term responses to the challenge of reducing poverty and expanding prosperity will benefit from the changing flows of financial and natural resources and people across the region that accompany these trends. This section points out where some of these opportunities lie but also calls attention to the risks. Each of these trends has a cross-border perspective as well as a national perspective. In a region that is increasingly polarized by income differences and where poverty is being concentrated in the least developed countries in particular,<sup>60</sup> regional cooperation must be strengthened.

#### Regional economic cooperation and integration

Regional economic cooperation and integration facilitates the flow of goods, services and people through policy coordination and institutional arrangements between two or more countries.<sup>61</sup> In operational terms, regional economic cooperation and integration can take the forms of integrated markets for goods, services, capital and labour; infrastructure connectivity; financial cooperation; and economic and technical cooperation to address shared vulnerabilities and risks.<sup>62</sup>

There are many other areas in which blossoming cooperation is fostering economic cooperation, such as city-to-city partnerships. Trade integration is one of the most visible forms of economic ties. By July 2016, the region's economies were parties to as many as 169 (63 per cent) of the 269 preferential trade agreements in force globally. Within the region between 2000 and July 2016, the number of enforced agreements increased from 54 to 169.<sup>63</sup> Political leadership is also driving cooperation initiatives, for example, with China's Belt and Road Initiative and with the establishment of the Asian Infrastructure Investment Bank.

An assessment of regional economic integration and cooperation based on trade and investment flows, on monetary and financial flows and on cross-border mobility of people concluded that East Asia is the most integrated, followed by South-East Asia, the Pacific, South and Central Asia, with variations, depending on the dimension of cooperation and integration. Opportunities for integration, in particular through infrastructure development for connectivity, are opening for the Central Asian and South Asian economies. Challenges to the Pacific island economies remain.<sup>64</sup>

These cooperation arrangements are intended to provide mutual economic benefit. Trade agreements primarily facilitate private sector opportunity, giving reciprocal and legally binding market access. However, in the Asian and Pacific context and without a specific response that brings countries together in common action, the risk that people will be engaged in the economy on an unequal footing or be excluded is likely to increase. Experience emphasizes that workers' rights can be negatively impacted under trade agreements,<sup>65</sup> while cross-border investments create obligations between governments or between governments and the private sector under agreements that may overlook the protection of human rights and the livelihoods and concerns of the most vulnerable workers in society.

#### Rural–urban transitions

With economic integration and increasing links between countries come opportunities that drive the rural–urban transitions. Countries

are at different stages of structural change, which involves “a falling share of agriculture in economic output and employment, a rising share of urban economic activity in industry and modern services, migration of rural workers to urban settings and a demographic transition in birth and death rates that always leads to a spurt in population growth before a new equilibrium is reached”.<sup>66</sup>

Once predominantly rural based, more than half of the people in Asia and the Pacific will live in cities in 2018. The urban population grew by nearly one billion people between 1990 and 2014. The urban share of the population varies, ranging from 18 per cent in Sri Lanka to 100 per cent in Singapore. Seventeen of the world’s 28 megacities are here; by 2030, that number may grow to 22 megacities in the region. This urban population explosion is not only due to natural increase but also to rural–urban migration and geographic expansion of urban settlements through annexation and transformation of rural villages into small urban settlements.<sup>67</sup> People go to cities seeking opportunity, but rural–urban migration can also result from internal conflict, and environmental change, including climate change and natural disasters.

The share of urban population increased much faster in East and North-East Asia than in other subregions in the decades before 2015 (table 1.1). China, Bangladesh, the Lao People’s Democratic Republic, Myanmar, Thailand and Viet Nam had the fastest increase in their share (ranging from 20 to 22 percentage points). On the other hand, Cambodia, Nepal, Papua New Guinea, Samoa and Sri Lanka are the least urbanized. Nepal, Papua New Guinea and Sri Lanka are among the top-ten least urbanized countries of the world.<sup>68</sup>

Urban centres are associated with reduced income poverty, but they experience considerable challenges with multidimensional poverty, migrant populations, new health burdens from non-communicable diseases and the risk of communicable disease, as well as with solid and other forms of waste (as discussed in Chapter 2). The expanding and changing profile of demand for food and the accompanying transformation of food systems are part of the rural–urban transition and provide opportunities for economic

diversification that are critical for inclusive growth.<sup>69</sup> Economic opportunities are expanding in the areas of access to technology, factor inputs, logistics and related off-farm activity, among others.<sup>70</sup>

In some countries of South-East Asia, the transition has facilitated the growth, rather than the decline, of agriculture, and has transformed negative food security gaps to positive ones. A strong political mandate for pro-poor growth has enabled major investments in rural infrastructure (in particular, irrigation infrastructure that has stabilized yields) and rural development and technological revolution on rice and capacity to respond to changing dietary demands.<sup>71</sup> In contrast, in other countries where agriculture has been deprioritized, declining shares of agriculture in GDP and employment have been accompanied by a widening gap in labour productivity between the agriculture and non-agriculture sectors.

Linking urbanization and rural development strategies will be critical for poverty reduction and food security. Climate change and financial stability could mean that rising, rather than falling, food prices will accompany the rural–urban transitions.<sup>72</sup> Additionally, those transitions are taking place at a time when market forces are having a more important role in food systems and when impoverished households already spend most of their income on food. The future of those who live in cities is thus intimately linked with the outlook for those who live in rural areas.

## Demographic changes and migration

A “historic” demographic transition is underway in Asia and the Pacific—a majority of nations have entered, or are about to enter, a period in which working-age people able to contribute to economic growth and development comprise a significant share of population.<sup>73</sup> The ratio of people at working age to older persons is, however, still decreasing rapidly.<sup>74</sup> Ageing is a concern in almost every region, particularly in North-East Asia, where more than 50 per cent of the region’s population older than 65 years live.<sup>75</sup>

The inadequate social protection and provisions for “active” ageing create conditions in which the financial and care-related burdens of an

ageing population are likely to be most keenly felt by women of working age—who may themselves be struggling with conditions of vulnerable work. The speed of the demographic transition and its relatively early occurrence in the development process means that developing country governments have less time than what industrialized country governments had to establish adequate social protection. They also have fewer resources.<sup>76</sup>

Rural–urban migration as part of the rural–urban transition is part of the demographic changes taking place while also a driver of the changes. Labour migration is a structural reality of the region and is reflected in relatively low regional unemployment rates.<sup>77</sup> Migration due to environmental change is expected to increase.

### Information and communications technology access and connectivity

Digital connectivity has been a striking feature of the changes taking place over the past two decades. The majority of the region’s population (62 per cent, or 2.5 billion people) subscribed to mobile telephone services in 2015, a rate on par with the global average of 63 per cent. Nowadays, 45 per cent of the population in Asia and the Pacific has access to the internet through mobile telephones, which is a 250 per cent increase over the past five years. This is expected to increase to 70 per cent by 2020.<sup>78</sup>

Widening access to ICT provides critical access to opportunities for education, for knowledge

transfer, for facilitating investments and for gathering data that are critical for poverty eradication and shared prosperity. Where ICT use has become part of the business culture and way of life, technology access and digital connectivity have boosted economic dynamism and entrepreneurship in both rural and urban contexts. Research from the industry suggests that mobile technology created 15 million jobs in 2015 and 5.4 per cent of GDP in Asia and the Pacific.<sup>79</sup> “Smart” initiatives that apply ICT in innovative ways are part of the vision and planning for more efficient cities, energy grids, traffic management and service delivery. ICT applications can provide opportunities for youth employment. Youth have important potential to lead innovation, leveraging ICT in new ways, including to address some of the most pressing development challenges.<sup>80</sup>

The spread of ICT also presents governments with the possibility to strengthen the delivery of basic services, including health care and education, and to increase the efficiency of the services provided. It also enables governments to engage a wider range of stakeholders in shaping the delivery of these services and supporting greater social transformations in the context of the 2030 Agenda.

ICT services are not financially, cognitively, physically or culturally accessible to all people. More than 35 per cent of the region's population, mostly in rural areas, still lacks access to the internet.<sup>81</sup> One billion people in East Asia, South-East Asia and the Pacific and 1.4 billion people in

Table 1.1

#### Share of population living in urban areas (percentages)

<i>Subregion</i>	<i>1950</i>	<i>1990</i>	<i>2015</i>	<i>2030</i>	<i>2050</i>
East and North-East Asia	17.9	33.9	60.0	71.5	77.9
South-East Asia	15.5	31.6	47.6	55.8	64.5
South and South-West Asia	16.0	26.5	34.8	42.0	52.5
North and Central Asia	16.6	27.3	35.0	42.0	52.5
Pacific	62.4	70.7	70.8	71.3	73.5

Source: UNDESA, 2015.

South Asia who live in areas with mobile internet services cannot currently access those services. In some Pacific countries, for example, as little as 1 per cent of the population has access to the internet, which can cost as much as \$650 per month. This digital divide is widening, and not all people can access the opportunities presented, particularly by broadband technology.<sup>82</sup>

## Demand for natural resources

The use of natural resources (biomass, fossil fuels, metal ores, industrial minerals and construction minerals) in Asia and the Pacific have increased five times more quickly than population growth and slightly faster than the region's average GDP growth between 2000 and 2015. The region's resource use is now projected to reach 80 billion tonnes annually by 2050,<sup>83</sup> despite resource efficiency gains in 22 economies between 2000 and 2012.

The demand for resources is linked to the production and consumption associated with economic growth and the building of infrastructure. There are important downstream and upstream impacts for the entire population, but particularly for the most vulnerable households as these resources are extracted from nature and transformed through energy and other inputs into goods and services. These include land-use change, threats to biodiversity, land degradation and the emission of greenhouse gases, waste and pollution.

Greenhouse gas emissions in economies in Asia and the Pacific in 2012 totalled 26.7 billion tonnes, reflecting a 4.2 per cent average rate of annual increase from 2000.<sup>84</sup> Urban areas in the region generate about 1.21 million tonnes of municipal solid waste a day. By 2025, this amount will more than double, to 2.65 million tonnes daily.<sup>85</sup> Plastic is a critical component of this waste, with micro plastic turning up in 100 per cent of fish catch in some regions of Asia. It is approaching a crisis on the scale of a "global threat", comparable to global climate change, food security and water scarcity.<sup>86</sup>

Water resource constraints are exacerbated by the production of untreated wastewater. The Asian and Pacific region has the largest share

of global renewable freshwater resources but the lowest availability of water per capita. The World Economic Forum report has, in the past, noted the climate-water-food-energy nexus as one of three important clusters of risks that have recently emerged and points to resource-security issues (causing extreme volatility and sustained increases over the long run in energy and commodity prices) as one of the five risks to watch.<sup>87</sup>

Increased competition for natural resources and cross-border investment is placing rural people at growing risk of losing their land and livelihoods while they face growing health and food security risks (as discussed in Chapter 3). The diminished integrity of ecosystems due to unsustainable management practices reduces the flow of ecosystem services, on which economic activities, such as water-intensive production and hydropower, and sectors, such as tourism, depend. The loss of ecosystem services also impacts the health and well-being of the wider population and therefore diminishes the capacity of governments to fully deliver on the 2030 Agenda for Sustainable Development.

## An evolving social contract

The regional trends described in this chapter are contributing to changes in economic opportunity and in flows of finance, information, natural resources and people. These changes will challenge governments' ability to balance and equitably fulfil their obligations and responsibilities to all stakeholders in society, particularly the most vulnerable.

The social contract, which shapes the "reciprocal rights, obligations, and responsibilities between states and citizens"<sup>88</sup>—and among stakeholders, will be instrumental in shaping the way in which governments respond to these pressures.

These relationships are already evolving in many places. The private sector is taking an increasingly important role in delivering basic services. As in other parts of the world, there are indeed failures of governance and mistrust between governments and the people.<sup>89</sup> Vulnerable work and gender inequalities persist, workers' rights are under pressure,<sup>90</sup> and the share of GDP



represented by wages is declining. Small farmers are losing their land to external investors without due process or compensation, and space for civil society is declining—trends that run counter to the requirements of sustainable development.

In the context of the regional profile of poverty and prosperity, the people most vulnerable in a changing Asia-Pacific region are more likely to be women and migrants in urban areas as well as impoverished households in rural areas. Despite the region's economic and poverty reduction miracle to date, the large numbers of people engaged in vulnerable work are likely to remain.

The vulnerability of impoverished households in both rural and urban areas stems from related trends that impact people in both areas in different ways. The long-term success of poverty eradication and prosperity building will hinge directly on the careful management of the rural–urban transitions,<sup>91</sup> which historically have required close attention to the relationships between the public and private sectors<sup>92</sup> and which should support, rather than undermine, food security and poverty reduction objectives. Efforts to meet the needs in two of the most basic dimensions of poverty—food security and health—must be strengthened, while social protection investments and investments in the social sector, including for education and infrastructure, should be expanded to enable the region to catch up with the rest of the world.

Some of the priorities for an evolving social contract include strong policy signals, commitments and allocation of resources to tackle the multiple dimensions of poverty. They also require institutional support for addressing

inequality, marginalization and exclusion, including through the recognition and protection of human rights. A strengthened and evolved social contract is also required at the regional level. Regional solidarity is needed to address the significant lags in progress and challenges in countries with special needs, in particular, and also to mitigate the risks posed by the cross-border dimensions of the regional megatrends.

## 1.4 Overview of the report

The transformation of the region based on mutual responsibility and accountability for the shared progress of all people, in all countries, should be a guidepost and an intrinsic part of the response of all countries to the 2030 Agenda. Multidimensional approaches to poverty eradication and promoting prosperity provide opportunities for more coherent responses. Strategies to eradicate poverty will not benefit all people if “business-as-usual” approaches to poverty are maintained.

The following chapters explore poverty and prosperity in urban and rural areas, focusing attention on the most vulnerable and marginalized people and mainly in the developing country context. The report also explores how the changing development context presents opportunities and challenges to the delivery of infrastructure for poverty eradication and shared prosperity, highlighting the changing role of the private sector in infrastructure provision and providing recommendations regarding financing and governance.



# **CHAPTER 2**

## **Managing urbanization for inclusive development**



## 2.1 Introduction

In 1950, 19.6 per cent of the region's population lived in urban areas. By 2018, more than half of the region's population will be living in urban areas, and urban living will be the dominant lifestyle of the next generation.<sup>1</sup>

This rapid urbanization has brought both opportunities and challenges. Cities account for as much as 80 per cent of the region's economic output and could share more than half of the global GDP, trade and investment by 2050.<sup>2</sup> Their contribution to the national economy outweigh their populations. Metro Manila, for example, is home to 12.5 per cent of the Philippine population<sup>3</sup> but contributes 36.5 per cent of national GDP.<sup>4</sup>

Most of the world's most prosperous countries are also the most urbanized. In general, there is a positive association between urbanization and measures of development, such as income per capita or the Human Development Index, and a negative association with poverty rates.<sup>5</sup> Although the association is not universal or necessarily causal, it is clear that the concentration of economic activity in urban areas increases productivity, diversifies employment opportunities and improves access to infrastructure and services that, together, improve quality of life and facilitate economic growth.<sup>6</sup> Urbanization also contributes to rural poverty reduction through rural–urban migration and remittances and increased demand for rural products, particularly agricultural products. Urban areas typically offer more economic opportunities than rural areas, allowing migrants a pathway out of poverty.<sup>7</sup>

But how much urbanization contributes towards poverty eradication and prosperity depends on the degree to which it is managed for inclusive and pro-poor outcomes. Governments have acknowledged this governance challenge with their adoption of both the New Urban Agenda and the 2030 Agenda for Sustainable Development, which includes SDG 11 on sustainable cities and communities. Both Agendas outline multiple issues to be managed in urban development to reduce poverty and promote inclusion of all people in the benefits of prosperity.

This section considers the opportunities for strengthening the role of cities in helping to end poverty and promote prosperity in Asia and the Pacific. Section 2.2 reflects on the influence of the megatrends in the region on urban development. Section 2.3 considers issues and challenges within urban governance, and section 2.4 points to options to respond to the challenges, drawing on experiences from the region.

## 2.2 Urban development: Trends and prospects

Urban development is influenced by a range of global and regional megatrends, which in turn are impacted by the growth of cities and towns. As outlined in Chapter 1, these trends include: rural–urban transitions, demographic changes, regional economic cooperation and integration, ICT access and connectivity and demand for natural resources.

### Rural–urban transitions and demographic change

Urbanization is at the nexus of the shifting population distribution in Asia and the Pacific and significant changes in economic, social and political structures. Urbanization impacts both rural areas and peri-urban areas across a rural–urban continuum. Migrants, and particularly women migrants, who move from rural to urban areas typically support family members left behind through their remittances; they tend to migrate back and forth for seasonal work and influence additional migration through social networks. In parts of South-East Asia, these migrants are predominantly young women in search of employment in garment factories, service industries or as household help. By contrast, most rural–urban migrants in South Asia are male. Urban areas have lower fertility and mortality rates, which generally increase the proportion of older people. This demographic trend, however, is partly counterbalanced by rural–urban migration.

Rural–urban migration and demographic changes together have far-reaching implications

for both source (rural) and destination (urban or peri-urban) areas, for the households and communities involved and for the well-being of older people, women and children. A recent study in China found that both migrant children and children left behind by migrant parents demonstrated significantly less interaction and competence (functioning) than other Chinese children.<sup>8</sup>

Family structures in both urban and rural areas are changing, with the greatest impacts in rural areas. Where multiple generations used to cohabitate in extended family or clan structures, the migration of working-age people to urban areas leaves a growing proportion of older people living independently in the rural areas. China, Indonesia and Thailand now have 20–40 per cent of their older populations living independently.<sup>9</sup> Older people in later life are poorer and more vulnerable to income and health insecurity, which women are more likely to experience with greater severity and for a longer period of time due to their longer life expectancy.<sup>10</sup>

The faster growth in the number of older persons in urban than in rural areas of Asia poses a challenge for poverty eradication and promoting prosperity. In the absence of support from working adults, older people often lack mobility and care and become more vulnerable to crime, exploitation, disasters and conflict.<sup>11</sup> The challenges of ageing are often more pronounced among older women. Compared with men, older-aged women are three times more likely to be widowed or living alone, spend more years and a larger percentage of their lifetime with a disability and are more than twice as likely to live in poverty.<sup>12</sup> As the growth in the number of older people is much faster in urban than rural areas of Asia, this will pose a challenge for attaining the goal of poverty eradication.<sup>13</sup>

### Regional economic cooperation and integration

Rural–urban transitions are strengthened by increased links between urban areas. Asian cities that are located in strategic trade and economic corridors can encourage regional cooperation. They form an important part of global economic networks<sup>14</sup> that connect them with each other

through increasingly globalized supply chains. Increasing physical connectivity, together with rapid digital connection, has been enabling the development of the economic corridors between countries and cities.

Because cities are the major hubs of production and investment, the relationships between them are becoming more important, rivalling those between countries. Cities are re-emerging as powerful players; competitive and well-run cities are crucial to making free trade agreements work.<sup>15</sup>

At a time when governments face difficulties in coping with today's transboundary challenges, including climate change, terrorism, poverty, diseases and the trafficking of drugs, guns and people, cities and their political leaders offer a new force of good governance. They are coming together to act on global issues. These initiatives include the Global Parliament of Mayors,<sup>16</sup> the EU Covenant of Mayors and Compact of Mayors,<sup>17</sup> 100 Resilient Cities<sup>18</sup> and the C40 Cities Climate Leadership Group.<sup>19</sup>

Within the region, CityNet is the largest association of urban stakeholders. It has grown to include 131 municipalities, non-government organizations, private companies and research centres. Through capacity building, city-to-city cooperation and tangible projects, it helps members respond to climate change, disasters, the SDGs and proliferating infrastructure demands.<sup>20</sup> United Cities and Local Governments Asia-Pacific, with links to 7,000 subnational governments and representing nearly 3.8 billion people, carries out a range of activities that address concerns of cities and local authorities, including within the learning cooperation between members and city-to-city learning.<sup>21</sup> Local leaders of the ASEAN Cities Mayors Forum seek to strengthen their cooperation and development of stronger community institutions, infrastructure and the social and economic life of cities through urban management and participatory governance.<sup>22</sup>

### ICT access and connectivity

Digital connectivity enables innovative solutions to a range of issues, from women's safety in cities

(such as Safetipin),<sup>23</sup> participatory city planning and budgeting (such as the Kita Kota initiative)<sup>24</sup> and solid waste management in cities (such as MakeMyIsland)<sup>25</sup> to early warning systems for typhoons and floods (such as a GIZ Philippines initiative)<sup>26</sup> and real-time information to help stop epidemics (for example, in India).<sup>27</sup>

Digital technology helps reduce poverty, vulnerability and exclusion in cities. Even the poorest people have benefited from the digital revolution through the use of mobile phones to run businesses and access financial services. Digital technology has the potential to improve the lives of migrants and other marginalized communities. Mobile phones and internet access can, for example, facilitate access to information on jobs and available social services or be used for sending remittance income to migrants' families in rural areas.<sup>28</sup>

Global IT hubs, such as Bangalore and Gurgaon in India, have boosted growth opportunities for people who have the skills and qualifications to participate. These hubs attract educated and digitally literate workers. But the growth of such industries can also marginalize older and less-educated urban residents who do not have the skills to participate and who are pushed out of fast-growing urban hubs by rising costs and gentrification.

Increasing adoption of high-speed (5G) mobile networks, the internet of things and the sharing economy will have important implications for the cities of the future. Greater inclusion of all people in the prosperity of cities can be fostered by investing in community-based schooling, skills training and bottom-up IT literacy programmes and by encouraging the development of local support and ancillary businesses to cater to the needs of technology workers. China, for example, has demonstrated top-level political will to focus on bottom-up and human-centred ICT initiatives for smart-city development.<sup>29</sup>

### Rising demand for natural resources and increasing emissions

Urbanization is changing the way natural resources are used and transforming the use of land.<sup>30</sup> With a rise in income, for example, urban

food consumption patterns have changed and become more intensive in the use of energy, land and water and in the emission of greenhouse gases.<sup>31</sup> Globally, cities account for 60–80 per cent of energy consumption and generate more than 70 per cent of greenhouse gas emissions.<sup>32</sup>

Unplanned urban sprawl puts pressure on agricultural land, forests and open green spaces. It can undermine other determinants of sustainable development.<sup>33</sup> For every 10 per cent increase in sprawl, there is a 5.7 per cent increase in per capita CO<sub>2</sub> emissions and a 9.6 per cent increase in per capita hazardous pollution.

From 2000 to 2015, the ratio of the land consumption rate<sup>34</sup> to the population growth rate in East Asia and the Pacific was the highest in the world, with industrialized regions second.<sup>35</sup> Conversely, compact, high-density cities, such as New York, Singapore and Tokyo, use much less energy and emit less CO<sub>2</sub> per capita than the national or global averages. Cities such as these are built around efficient public transport systems and dense, mixed-use zoning rather than a predominant reliance on cars and roads for transport, widely spaced suburbs and single-use commercial and industrial zones.

Urban areas in the region generate about 1.21 million tonnes of municipal solid waste a day. By 2025, this amount will more than double, to 2.65 million tonnes daily.<sup>36</sup> The challenges of waste disposal have been felt deeply in Asia's megacities. For example, Mumbai, with 12 million people, regularly runs out of landfill sites, while Jakarta, with 10.3 million residents, struggles with garbage in its rivers.<sup>37</sup>

Cities are making efforts to manage their solid waste problems. Singapore, which was once threatened by a rising tide of garbage, has managed it through recycling and efficient solid waste treatment systems.<sup>38</sup> The Smokey Mountain dumpsite of the Philippines has been closed, and most of the residents relocated to other areas, although similar landfills still exist in surrounding areas.<sup>39</sup>

## 2.3 Poverty and vulnerability: Issues and challenges

The changing development context presents several important challenges for urban governance.

### Changing landscape of poverty, rising inequality and exclusion

The changing landscape and morphology<sup>40</sup> of poverty at the subnational level is resulting in major income-poverty hotspots in the urban areas of middle-income countries—areas in which poverty is deeply entrenched and reinforced by deprivations in non-income dimensions.

Compared with larger cities, the income poverty rate is higher in smaller cities, such as those in

Kazakhstan, Sri Lanka, Thailand and Viet Nam.<sup>41</sup> In Viet Nam, for instance, small cities and towns account for 43 per cent of the urban population but more than 70 per cent of the urban poor, while Hanoi and Ho Chi Minh City accommodate 32 per cent of the urban population but only 11 per cent of the urban poor.<sup>42</sup> In China, most small cities are at the low end of the industrial process and face a greater challenge to improving and expanding their economies.<sup>43</sup>

The multidimensional approach to poverty measurement better describes the daily experience of poverty. Although urban areas of the region have much less income poverty than rural areas, on multidimensional counts, the region has a significant number of people who are poor, compared with other regions. Of the 1.5 billion multidimensionally poor people living in 102 developing countries in 2016, 53.9 per cent lived in South and South-West Asia alone,

Table 2.1

### People in multidimensional poverty in urban areas, by region and subregion, 2016

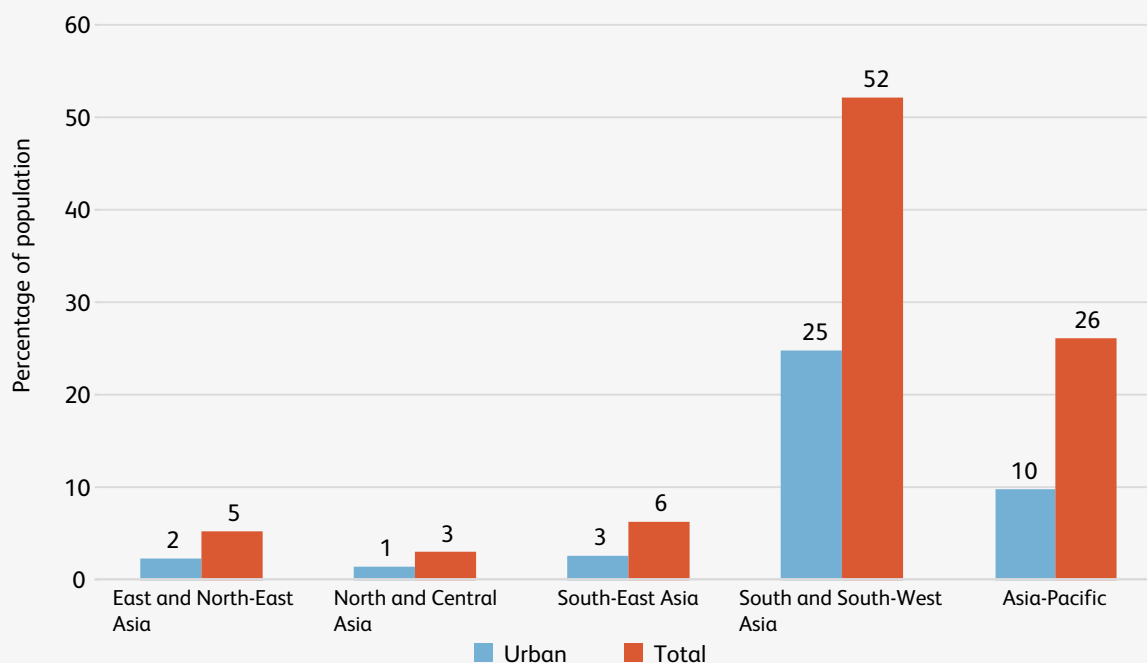
<i>Region and subregions</i>	<i>Number of countries</i>	<i>Number of poor people (thousands)</i>	<i>Share of poor people (% of world)</i>	<i>Number of urban poor people (thousands)</i>	<i>Share of urban poor people (% of world)</i>
East and North-East Asia	2	71,109	4.7	16,341	6.3
South-East Asia	7	33,369	2.2	6,255	2.4
South and South-West Asia	7	814,473	53.9	119,061	45.8
North and Central Asia	8	2,330	0.2	494	0.2
Africa	46	541,762	35.8	103,574	39.9
Europe	8	423	0.0	176	0.1
Latin America and Caribbean	18	31,727	2.1	10,226	3.9
Other countries or areas	5	16,079	1.1	3,661	1.4
<b>Total</b>	<b>102</b>	<b>1,511,340</b>	<b>100</b>	<b>259,795</b>	<b>100</b>

Source: Human Development Report Office, 2017.

Note: MPI calculations for regions and subregions (internal document). Estimates for urban areas do not include Argentina, Libya and Trinidad and Tobago, therefore they are based on 99 countries. Surveys for these three countries do not present the urban-rural variable. The share of MPI poor people in the Pacific region is not given because data are available for only one country.

Figure 2.1

Share of population living in multidimensional poverty, by subregion, 2016



Source: Human Development Report Office, 2017.

Note: MPI calculations for regions and subregions, based on data from an internal document.

more than the share living in Africa (at 35.8 per cent). This also holds true in urban areas. Out of the total 260 million urban people living in multidimensional poverty, the Asia-Pacific region accounts for more than half (54.7 per cent); South and South-West Asia share 45.8 per cent of the urban poor population (table 2.1).<sup>44</sup>

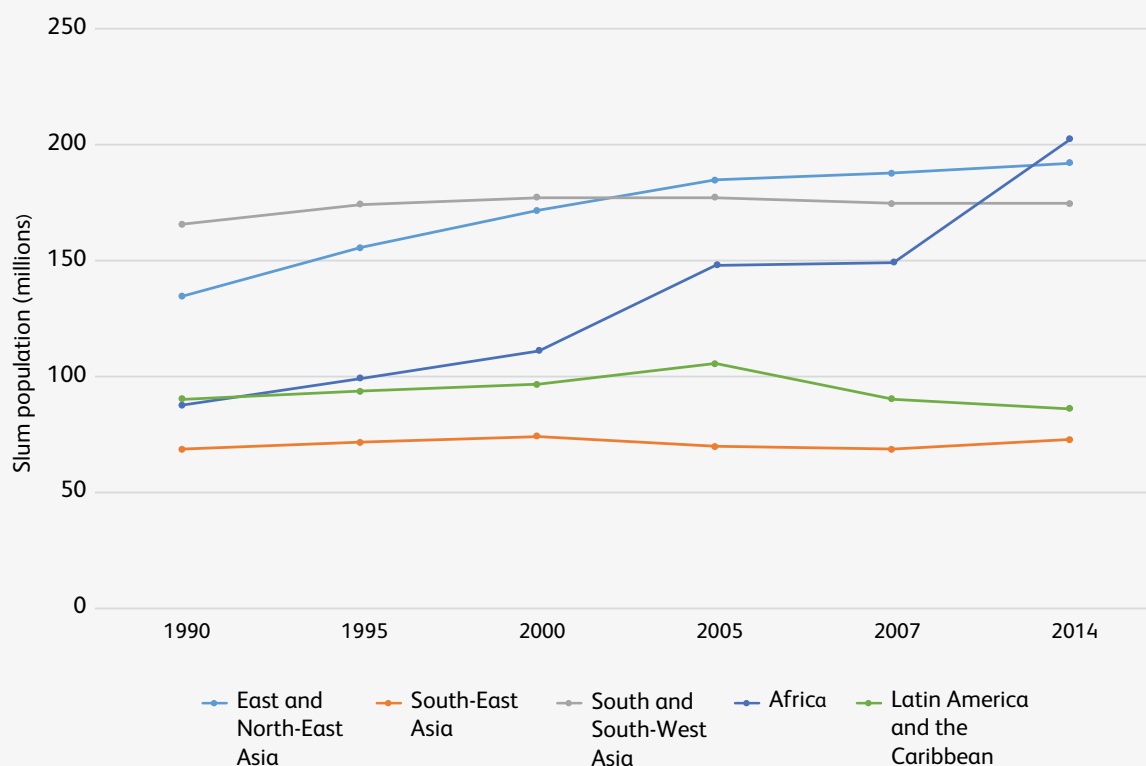
About one in ten people live in multidimensional poverty in urban areas of Asia and the Pacific, which is significantly less than the proportion of poor people living in both urban and rural areas (at 26 per cent). By subregion, the urban multidimensional poverty rate is much higher in South and South-West Asia, where about one in four people live in multidimensional poverty, compared to between 1 and 3 per cent in all other subregions (figure 2.1).

Slum populations and transient or migrant populations form a major part of the urban poor community. Although the proportion of the

overall population that resides in urban slums is smaller than it was two decades ago, the absolute number generally continues to rise in all the developing regions except Latin America and the Caribbean (figure 2.2, table 2.2).<sup>45</sup> The increase in the number of the slum populations is much larger in upper-middle-income economies than in lower-middle-income countries (table 2.2). By 2030, it will reach around 2 billion people—twice as many as today.<sup>46</sup> And Asia and sub-Saharan Africa will be hosting almost all of the increase in slum populations—about 90 per cent of urban growth in the next 15 years will concentrate in these two regions.

Migrants are disproportionately represented within some of the worst quality informal settlements.<sup>47</sup> Because most such housing is considered “illegal”, usually their inhabitants do not have access to public infrastructure or services, including health care, emergency services, safety nets, pre-schools and schools; thus, they can end

Figure 2.2

**Urban slum population trends, by region and subregion, 1990–2014**

Source: ESCAP Statistical Database <http://stat.oecd.org/index.aspx?DataSetCode=PAG> (accessed 21 January 2017).

Table 2.2

**Urban slum populations, by region and subregion, 1990–2014 (in thousands)**

Region or economies	1990	1995	2000	2005	2007	2009	2014
Africa	88,086	98,695	110,841	147,591	148,870	153,243	202,515
Latin America and Caribbean	89,941	94,400	97,021	105,510	89,864	...	86,213
Asia-Pacific developing economies	370,426	402,184	422,425	433,136	432,028	431,121	439,528
East and North-East Asia	135,214	156,049	172,239	185,325	187,934	188,270	191,983
South-East Asia	68,837	72,409	73,680	70,463	68,941	70,735	72,770
South and South-West Asia	166,375	173,726	176,506	177,349	175,154	172,116	174,505
Lower-middle-income economies	221,057	231,575	235,365	232,882	228,844	226,164	225,639
Upper-middle-income economies	148,236	169,099	185,066	197,923	200,745	202,415	205,949

Source: ESCAP Statistical Database, <http://stats.oecd.org/Index.aspx?DataSetCode=PAG> (accessed 21 January 2017).

Note: ... = no data. Calculated based on countries for which data are available (data not available for North and Central Asian and Pacific countries). Regional aggregates and world total might differ from related figures calculated by UN-Habitat due to differences in methods applied. ESCAP calculated figures should be considered low-range estimates.



up paying more than upper-income households for basic services.<sup>48</sup>

Taking into account these realities, the international (income) poverty line underestimates urban poverty. When urban challenges, including the inadequacy of infrastructure and services are considered, the multidimensional poverty head count ratio increases. This has important implications for targeting for resource allocation.<sup>49</sup>

Rapid urbanization has promoted economic growth in Asia and the Pacific and created a large middle class over the past two decades.<sup>50</sup> Rapid urbanization and increases in income also have been accompanied by increases in inequality in some countries.<sup>51</sup>

Women, and particularly migrant women, experience urban poverty as a layering of vulnerabilities linked to their gender and to their status as migrants, and they generally occupy the most exploitive and poorly paid employment positions. Empowerment of women in parts of the labour market has not necessarily led to changes in gender roles on other fronts.<sup>52</sup>

## Expanding vulnerability of impoverished and slum populations

### *Vulnerability to shocks*

The high density of people, jobs and assets in cities make them extremely vulnerable to a range of natural and human-made risks. The effects of these risks are likely to be felt mostly by women and children and the urban poor generally, whose informal settlements tend to be on land that is especially vulnerable to extreme weather events.<sup>53</sup>

Almost half a billion urban residents—a disproportionate share from the Asia-Pacific region—live in coastal areas, which increases their vulnerability to storm surges and sea-level rise. Of the 17 largest cities in the world, 14 are located along coasts. And 11 of them are in Asia, including Bangkok, Jakarta and Shanghai.<sup>54</sup> The urban poor—who are most exposed and least able to cope—are hardest hit by disasters, with up to 77 million urban residents potentially

falling back into poverty as a result of climate change impacts.<sup>55</sup> By 2030, some 325 million extremely poor people will be living in 49 countries that are the most prone to hazards; of them, 50 per cent will be in Asia and the Pacific. The primary drivers of increased urban poverty will be higher food prices and costs associated with an increase in waterborne diseases. Most of the increase in urban poverty due to climate change will be concentrated in the cities of South Asia and sub-Saharan Africa.<sup>56</sup>

### *Increasing health risks*

Cities face a range of health risks, including those associated with air pollution, non-communicable diseases and pandemics. In 2014, around half of the global urban population was exposed to air pollution levels that were at least 2.5 times higher than the maximum standards set by the World Health Organization.<sup>57</sup> Nearly 70 of the 100 most polluted cities in the world are in Asia, including cities in Bangladesh, China, India, the Islamic Republic of Iran and Pakistan.<sup>58</sup> Between 2008 and 2013, air pollution in cities in South-East Asia increased by more than 5 per cent.<sup>59</sup>

As much as 80 per cent of air pollution is attributable to transport,<sup>60</sup> with old, poorly maintained vehicles running on low-quality fuel and roads prone to traffic jams.<sup>61</sup> Singapore and Seoul have focused attention on emission-reducing public transport programmes as a way to reduce the health risks, including respiratory disease and death. (Air pollution was estimated to have caused 7 million deaths in the world in 2012.<sup>62</sup>) As a study of air pollution in New Delhi underlined, those who are poor are exposed to higher levels of air pollution, while older persons and children are most vulnerable to the impacts. Pollution controls thus should take into account poverty and equity considerations.<sup>63</sup>

The prevalence of non-communicable diseases is increasing with the ageing, rapid unplanned urbanization and unhealthy lifestyles. Non-communicable diseases already disproportionately affect low- and middle-income countries, in which nearly three-quarters of these deaths occur. For example, the number of urban dwellers with diabetes in low- and middle-income countries is projected to almost double from 181

million today to 347 million in 2035.<sup>64</sup> Diabetes prevalence in China, was 9 per cent in 2013, comparable with the level in the United States (at 9.2 per cent),<sup>65</sup> and in India, an estimated 70 million people were affected in 2015,<sup>66</sup> almost one in ten people. The cost of treatment of non-communicable diseases is high and escalating, outstripping rises in income.<sup>67</sup> The Pacific island countries face particular challenges in providing health care for the ageing populations scattered across their many islands. Prevention strategies include legal and policy measures, such as increased tobacco taxation and reduced import tariffs on “healthy” products that can help reduce the non-communicable disease risk factors.<sup>68</sup>

Pandemics that may be triggered by climate change will particularly affect urban people, especially those who are poor and more vulnerable to disaster impacts. While a health risk by itself, the lack of adequate sanitation could facilitate the spread of infectious diseases (and increase the risk of global disease outbreaks) more easily with the projected increase of populations living in slums and the growing mobility between cities.<sup>69</sup>

### *Inadequate infrastructure and services*

Infrastructure development has not kept up with or met the expectations of the populations of growing cities in developing countries.<sup>70</sup> All the major cities of South Asia, including Mumbai, Delhi, Dhaka and Kathmandu, struggle with inadequate access to social services, such as health care, education, roads, transportation, electricity, safe water supplies and sanitation facilities.<sup>71</sup> Inadequate provision of infrastructure and services increases the vulnerability of poor people in cities.

In addition to causing losses in productivity,<sup>72</sup> these shortcomings in infrastructure development reinforce other forms of inequality.<sup>73</sup> Estimates indicate that if the high-impact consequences of climate change coincide with inequitable access to basic infrastructure and services, natural disasters will force tens of millions of urban dwellers into extreme poverty and may cost cities \$314 billion each year by 2030, up from around \$250 billion today.<sup>74</sup>

An estimated 440 million people, representing 27 per cent of the region’s urban population, lived in informal settlements in 2014<sup>75</sup> that were characterized by non-durable, overcrowded housing and a lack of access to improved water and sanitation or security against eviction. Infrastructure, particularly in low-income areas of cities, is rarely gender-sensitive, thus it limits the mobility and economic opportunity for women and girls who can face daily harassment on public transport and risks of sexual violence.<sup>76</sup>

Infrastructure development and strengthened service delivery is critical for supporting women’s livelihoods in urban areas, with the potential for transformational impact. Better health care, child care, education and other services in cities would support women’s empowerment while also catalysing rural development through potentially increased remittances.

Cities are confronted with multiple governance challenges that hinder their ability to strengthen infrastructure service delivery. Unfinished decentralization reforms, specifically administrative and fiscal decentralization processes, leave cities without the necessary capacities and resources to address the many challenges. Horizontal and vertical coordination between the tiers of government remains complicated due to a lack of clear mandates and procedures, which invariably affects service delivery.

In addition, administrative boundaries have not changed fast enough to keep up with the rapid urbanization, creating situations in which it is difficult to have one integrated governance system for an entire urban area. People living outside an officially demarcated city, though integral to the local urban economy, may not be able to access some basic public services (including education, health care, water and sanitation) and are often not involved in municipal planning and budgeting processes.

Finally, the influence of investors and local economic elites in urban areas is often disproportionately high, which skews decision-making and government functioning in their favour and away from the interests of the groups who are most in need.

## 2.4 Managing urban development for poverty eradication, prosperity and sustainability

Cities can support sustainable development and poverty eradication when they are inclusive, sustainable, green and safe. Achieving these aspirations requires significant changes to current urban development paradigms, including policy reform.

The management of urban development requires an integrated multiple-stakeholder approach that extends beyond the realm of government policies to the much wider sphere of the relationships between communities and groups and among the people at large. To identify opportunities for urban development and address existing and emerging challenges, effective participation and collaboration among all relevant stakeholders, including local governments, the private sector, civil society and women's and youth organizations, are necessary.

The 2030 Agenda and the New Urban Agenda underline the need for such inclusive and participatory approaches and partnerships. These Agendas can be used as a push to renew the social contract, re-envision urban governance and address inequality and exclusion. Some cities and their mayors are already leading the way on sustainable urban development, examples of which are discussed further on. However, many of them struggle to drive actions due to constraints, including limited political and fiscal power, lack of access to development financial resources, low institutional capacity, lack of inter-sector cooperation and inability to engage stakeholders, including through partnerships.<sup>77</sup>

### Urban social protection programmes

Many countries in the region have used social protection programmes and social integration programmes to tackle urban poverty. For example, establishing a comprehensive social protection system has been key for China's poverty reduction. The Dibao programme, which provides cash to needy households in China, is the backbone of the social protection system there and has been extended throughout the country.

The Government of Viet Nam has made efforts to integrate migrants in secondary cities and offer them social protection.<sup>78</sup> For example, the Government made it easier for migrants to change their residence status from temporary to permanent, thus allowing them to avail of social protection benefits. To better manage the flow of migrants into big cities, the Government is creating opportunities for employment, income and service access in secondary cities, designating them as potential growth centres.

The Government of Viet Nam also issued policies that encourage investment in housing development and associated services for people in the low-income bracket, thus incentivizing migration to smaller cities and towns.<sup>79</sup>

### Multidimensional approach for planning and for targeting urban poverty

Several countries in Asia and the Pacific are beginning to use more comprehensive indicators than income to measure and target poverty. The Multidimensional Poverty Index, as discussed in Chapter 1, is one example that allows for countries to reflect their own context and realities into their poverty measurements. Bhutan uses the MPI as its development target and as one of the main considerations in allocating annual capital grants across *dzongkhags* or *gewogs*. The Government of the Philippines incorporated the MPI into its 2011–2016 development plan and used it to set poverty reduction targets. Ho Chi Minh City in Viet Nam launched the first citywide MPI in 2014 and found that the number of people in MPI poverty was much larger than people who are income poor (at 11.3 per cent and 0.1 per cent, respectively). The MPI has since been deployed in other cities in Viet Nam for targeting social protection (box 2.1).

### Improving the resilience of cities through risk-informed urban planning

The concentration of people, assets, critical infrastructure and economic activities in cities exacerbates the impacts of natural catastrophes.

Risk-informed urban planning helps to reduce the vulnerability of urban poor households and build up both a city's and its residents' resilience to disasters and climate change. Six disaster-prone

## Box 2.1

**Use of the Multidimensional Poverty Index for targeting social protection in cities of Viet Nam**

With its launch in the 2010 *Human Development Report*, the Multidimensional Poverty Index (MPI) has gained popularity for planning, targeting and allocating resources in Asia and the Pacific. It measures deprivation using ten indicators under three dimensions: health, education and standards of living. Countries have localized the global MPI, mainly changing the indicators, and put it to various uses.

Following a National Assembly resolution, the Government of Viet Nam developed a new multidimensional poverty line and piloted it in Ho Chi Minh City in 2014. Now the Government uses it in other cities to identify non-income poor households in order to better provide social protection.

Unlike the global MPI, the city MPI has five dimensions with ten indicators: (i) education (adult education level, child education attendance), (ii) health (access to health care and health insurance), (iii) housing (quality of house and house area), (iv) clean water and sanitation (water source and toilet) and (v) information accessibility (access to communication services and assets for information accessibility).

The use of the MPI has brought an additional 2 million urban people into the poverty net who are above the (income) poverty line but are poor in terms of the non-income dimensions, or MPI criteria. They will now receive assistance for housing, health insurance and education, among other needs, under the various poverty reduction programmes.

Source: UNDP and Viet Nam Academy of Social Sciences, 2016.

cities in three countries in the region are working to improve their resilience against disaster by analysing the historical damage and loss data at the subnational level and assessing the likely impact of climate change-related risks on various sectors, including transport, sanitation, health and water.<sup>80</sup> Low-cost green buildings in urban areas that meet the requisite building codes have also been successfully developed as the basis for social enterprise.<sup>81</sup>

### Innovative management of emissions and wastes

Cities worldwide as well as in Asia and the Pacific have been engaged in managing urban challenges, including the problems of increasing greenhouse gas emissions and solid waste.

As a first step towards a comprehensive effort to measure and reduce greenhouse gas emissions, a global momentum is building for developing emissions inventories for cities. Many cities now regularly measure and disclose their emissions data through such mechanisms as the Covenant of Mayors (2,450 cities in 2012) and the Carbon Cities Climate Registry (164 cities in 2012). Many cities in China, including 36 cities participating in a pilot project on low-carbon development, have either completed or are in the process of conducting base-year greenhouse gas inventories.<sup>82</sup>

Recent case studies show how greenhouse gas inventories enable Asian cities to drive green investments, leverage and access climate financing (including from an evolving global carbon market) and raise public awareness.<sup>83</sup> For example, a study in Johor Bahru, Malaysia

## Box 2.2

### **MakeMyIsland—A smart innovation to manage waste in the Maldives**

Launched in December 2015, MakeMyIsland mobile telephone application has been making headway in managing the garbage problem in the Maldives. Soon after the launch of the app, more than 64 issues were reported and addressed during the first weeks. It is now in use in four islands of Laamu, Male and greater Male.

Using a mobile phone, local residents can report to the authorities if people are discarding garbage in an area not designated as a dump. The complaint is recorded on a website and mapped digitally. And the government council prioritizes the issues based on the number of complaints and responds accordingly. The success of the application depends on the efficient attendance of the authorities on the reported issue.

Source: UNDP, 2015b.

highlighted the significant contribution (45 per cent) of the industrial sector to the city's total emissions, resulting in the adoption of a \$1 billion programme (focusing on technology and operational improvements in the petrochemical and rubber industries) that was expected to reduce the city's carbon emissions by 24 per cent by 2025 and generate annual savings of \$770 million.<sup>84</sup>

An increasing number of cities in Asia and the Pacific are positioning themselves as green cities, seeking innovative ways to lower carbon emissions and manage solid waste. In recent years, several innovative approaches in several countries have demonstrated how "green city" concepts can be put into practice. Use of smart technology has been successful in some parts of the region, such as the Baidu Recycle application in China<sup>85</sup> and the MakeMyIsland application in the Maldives (box 2.2).

### **Addressing the poverty and marginalization of women migrants**

Although female migrants are a particularly poor and vulnerable group, they often do not receive targeted support from their local government. Grass-roots and civil society organizations have stepped up to take a vital role in protecting and assisting female rural–urban migrants. Institutions, such as the Self-Employed Women's

Association in India or HomeNet in Thailand, provide financial, institutional and capacity development support to women migrants, in particular by targeting their labour market vulnerabilities. Further strengthening of such organizations as well as the cross-pollination of their tools and methods could strengthen these critical support structures.<sup>86</sup>

Increased use of ICT, in particular mobile phones, also holds the potential to improve migrants' lives. For example, a study in Niger found that migrants with access to mobile phones were able to remain connected with potential employers, family members and friends in urban areas, which thus enabled them to scope out new job opportunities more efficiently.

Mobile phones also can be used as tools for financial inclusion and facilitating remittance flows. In some cases, the use of such tools can even improve the banking sector in rural areas or neighbouring countries through additional liquidity. Further research into ICT as a support mechanism for women migrants is needed, however.

Women migrants tend to send back a larger part of their income to their home communities than men, even though their work is often exploitive, insecure and generally less well paid than that of men or non-migrants. Migration can still be an

opportunity for women to question gender norms, creating potential “emancipatory momentum”<sup>87</sup> for participation in other spheres of life.

Rural–urban migration by women thus should be presented as a potential opportunity for local government to help and improve the lives of both rural and urban families and communities. Despite some research on this issue,<sup>88</sup> the gender dimensions of rural–urban migration are not understood well enough across the region overall, and there has been limited analysis of the policy implications in either the urban or rural contexts.

## 2.5 Conclusions: Realizing a shift in the urban development paradigm

Urbanization will continue to increase over the next decades in Asia and the Pacific, shepherding in opportunities as well as challenges in a changing development context. It has a positive correlation with the overall economic growth of countries and has helped millions of people move out of poverty. However, these benefits have not been shared by all, and ensuring inclusive and pro-poor outcomes will require a shift in the urban development paradigm.

Managing urbanization for poverty eradication and inclusion starts with the adoption of more multidimensional approaches to tackling poverty, including through refined and contextualized tools that allow the multiple dimensions of poverty to be better understood and confronted, such as the Multidimensional Poverty Index.

Risk-informed urban planning is another crucial area to focus on. Poor and marginalized people are also the most impacted by shocks, crises and disasters. Inclusive and sustainable urban development must prioritize building the resilience of the most vulnerable groups in a society.

Specific efforts are needed to address the plight of migrants, who tend to be the poorest and most marginalized people in urban areas and whose needs often go unmet. Focusing on the gendered aspects of migration in the region and


on improving the well-being of women migrants in particular is critical to tackling persistent poverty and inequality in rural and urban areas. Women migrants are active agents in bringing urban prosperity to rural areas and tend to send a greater proportion of their earnings back to rural communities than men do. While many governments have attempted to control or reduce rural–urban migration, improving the quality of life of migrants is crucial to the efforts to eradicate poverty and promote prosperity. Further research and analysis of policy implications are needed.

The shift in the urban development paradigm may require a new look at the social contract between people. Local governments are not always able to provide targeted support to people who are poor, and civil society organizations have taken on an increasing role. At the same time, the influence of investors and local economic elites in urban areas is often disproportionately high, while mechanisms for stakeholder engagement in decision-making processes are underdeveloped.

The 2030 Agenda as well as the New Urban Agenda depend on a renewed social contract for their success and emphasize the need for inclusive and participatory approaches and partnerships. Localizing these Agendas, which have been agreed upon by world leaders, to cities can facilitate the improvement of the social contract, re-envision urban governance and better include people who are left behind. Some cities are already leading the way on sustainable urban development. Many, however, struggle with limited political and fiscal power and low institutional capacity. Peer-to-peer networks can help to strengthen the response to poverty in urban areas.

Finally, the change in the urban development paradigm needs to include a shift away from the urban–rural dichotomy. Rather, policymakers should see it as an ever-changing continuum in order for development efforts to be inclusive. This is illustrated best by rural–urban migration: It is often seasonal and, in many cases, people return to their rural land after spending a few years in cities. Urban and rural development, thus, should not be considered in isolation of each other.





# **CHAPTER 3**

## **Strengthening responses to rural poverty in the context of rural-urban transitions**





## 3.1 Introduction

Strengthening the response to rural poverty in the context of rural–urban transitions is central to achieving the 2030 Agenda for Sustainable Development and the SDGs. The 2030 Agenda commits to “sustainable agriculture and fisheries, supporting smallholder farmers, especially women farmers, herders and fishers in developing countries, particularly least developed countries.”<sup>1</sup>

The 2030 Agenda also highlights the need to increase investment in rural infrastructure and to support positive links between urban, peri-urban and rural areas by strengthening national and regional development planning. And it provides for the protection of natural ecosystems and biodiversity, which will contribute towards the attainment of the 17 SDGs and for which rural areas largely have a custodian role.

Rural poverty in the region, although persistent, has declined in the past few decades. A more productive agriculture sector has contributed to this development—through increased real income, employment generation and reduced prices of food.<sup>2</sup> Technological advancements, institutional arrangements and the corporatization of food production have contributed to increased agricultural productivity. Rural–urban migration also has accounted for some of the reduced incidence of poverty. The development of rural infrastructure, rural–urban links and links between major cities has had an important role in connecting urban growth with rural development in East, South and South-East Asia.<sup>3</sup>

Rural areas, however, where 51.2 per cent of the region’s population resides,<sup>4</sup> are still home to the majority of poor people. An estimated 39 per cent of the rural population in developing Asia and the Pacific lives in multidimensional poverty, as indicated by the global Multidimensional Poverty Index.<sup>5</sup> In rural areas, women are especially burdened—they take on an increasing share of work for subsistence and income generation with limited access to resources while carrying out chores and caretaking activities and participating in community activities.

This chapter describes the challenges for efforts to eradicate poverty and promote prosperity in rural areas and in a changing development context. Section 3.2 reflects on the implications of the regional megatrends for rural areas. Section 3.3 highlights the policy challenges that arise for rural poverty eradication, and section 3.4 describes specific responses.

## 3.2 Rural areas in transition: Trends and prospects

Governments face severe political pressures. On one side, agriculture and the rural sector’s share in GDP is declining in the process of structural change. Due to low productivity, agricultural value-added accounted to 9.9 per cent of GDP in 2013, while the share of agriculture in total employment was 36 per cent of the labour force.<sup>6</sup> This divergence between labour productivity in agriculture and in the other sectors of the economy is an important component of the increasing inequality in the region’s income distribution.

Economic structural changes mean that governments increasingly have to balance competing but equally important policy objectives: food quantity versus food quality, short-term increase of food production versus long-term socio-environmental sustainability, affordable food supply for the poor versus the need to boost farmers’ income, the production of food versus non-food crops and the use of land for farming versus non-agriculture land uses for urbanization and industrialization or for ensuring the continued flow of ecosystem services. The way in which these multiple policy objectives are approached holds important implications for ensuring equitable benefits from the rural–urban transitions and for long-term food and environmental sustainability.

### Rural–urban transitions and rural food security

Income growth has made food more affordable. And food availability per capita has increased over the years. Food consumption, however, is

not geographically uniform; urban consumption accounts for half to two-thirds of the food economy in Asia. Thus, food security has become an issue of distribution, requiring a targeted approach to reach hungry and malnourished people living in structural poverty.<sup>7</sup>

The rural–urban transitions, rising incomes and changing consumption patterns have resulted in changes of food preference, with animal-based food having more of an important role than it did previously. Meat and dairy production in particular are often land and water intensive. The expansion of grazing, for instance, has resulted in further deforestation, desertification and increased greenhouse gas emissions, adding more pressure to the natural resource base and rural areas.

Higher and more volatile food commodity prices have become a feature of world markets since 2007, although world commodity prices were relatively stable in 2016.<sup>8</sup> On the supply side, food production is affected by climate change as well as land and water scarcity, while the demand for food is increasing due to population and income growth—the probability of price surges is high, given the scale of global environmental degradation.

Rising food prices mean that rural people, who are usually net buyers of food, end up spending a larger proportion of their limited income on food and, at times, reducing the quantity,

quality (nutrition) and frequency of their meals.<sup>9</sup> Management of food security in rural areas is increasingly an international trade and macroeconomic issue rather than just a domestic agricultural issue.<sup>10</sup>

### Increasing demand for natural resources and pressures on rural land

Increasing urbanization, changing lifestyles and global population growth contribute to increasing the demand for land. Deforestation of rural land in subtropical Asia<sup>11</sup> is due to urbanization, mining and infrastructure (altogether responsible for one third of deforested land),<sup>12</sup> local and subsistence farming (responsible for one third of deforested land)<sup>13</sup> as well as growing commercial agriculture (responsible for one third of deforested land).<sup>14</sup>

Increased pressures and competition over land and water threaten rural livelihoods, especially where rural populations are growing and per capita land is shrinking.<sup>15</sup> Pressures on oceans and marine ecosystems also threaten the livelihoods of fishing communities (box 3.1).

In the context of regional integration and globalization, commercial agriculture, including cross-border investments for food and non-food agro-industrial production, is likely to accelerate, together with the corporatization of agriculture, to meet the rising demand for affordable and nutritious food. An analysis of land laws in 13 countries in the region concluded that at least

#### Box 3.1

##### Pressure on oceans, seas and marine resources

Oceans, seas and marine resources are also experiencing increasing pressures. Almost 80 per cent of global fish stocks are fully exploited, overexploited or have collapsed. Small-scale fishers and fishing communities, who rely on fisheries for food security, are losing access to and use and control of these resources due to legal reforms that require them to have market-embedded rights to fish, increasing marine protection areas that prohibit small-scale fishing, overfishing, pollution and destruction of fishing grounds, all of which reduces the catch. The “actions, policies or initiatives that deprive small-scale fishers of resources, dispossess vulnerable populations of coastal lands and/or undermine historical access to areas of the sea” are described as “ocean grabbing”.

Source: Bennett, Govan and Satterfield, 2015.

43.5 million hectares of land (equivalent to 12.3 per cent of arable land of these countries<sup>16</sup>) had been transferred from smallholders to corporations due to changes in laws and regulations.<sup>17</sup>

Cross-border agricultural land acquisition can generate high financial returns to investor countries, with better access to the food produced. These arrangements often impact large land areas and are typically made and formalized without public disclosure, meaningful prior consultation, consent and appropriate compensation (“land grabbing”). They can result in the displacement of smallholders and indigenous people, particularly those in areas with insecure or traditional land tenure systems. Impacts of land grabbing include reduced access to natural resources and local livelihoods, the loss of spiritual and cultural traditions and food insecurity. This is particularly the case in countries with weak governance and unclearly defined local land rights.<sup>18</sup> Cross-border agricultural investments often hold little benefit for local populations.<sup>19</sup>

In recent years, the number of corporate farms has grown, while both the number of smallholder farmers and the size of their landholdings have shrunk, in both industrialized and developing countries. In Indonesia, for example, the number of large farms and the number of plantations have increased by 54 per cent and 19 per cent, respectively, while the number of smallholders declined by 16 per cent between 2003 and 2013.<sup>20</sup>

In tandem with this trend, the number of landless farmers is on the rise in many countries and is correlated with poverty and social exclusion<sup>21</sup> as a result of population growth, corporate agricultural expansion<sup>22</sup> and degradation of arable land, including through intensive cropping practices<sup>23</sup> and the subsequently declining per capita arable land.<sup>24</sup> In the past two decades, access to arable land decreased in East Asia and the Pacific (from 0.128 hectares to 0.103 hectares per capita)<sup>25</sup> and in South Asia<sup>26</sup> (from 0.176 hectares to 0.122 hectares per capita).<sup>27</sup> A high incidence of landlessness is evident in densely populated South Asia and South-East Asia.

Landlessness is often more likely to impact women, poor people, indigenous peoples and vulnerable groups in rural areas.

## ICT access and connectivity

Rural–urban connectivity is critical for rural development. Investments in rural infrastructure, including roads and rails connecting rural areas with urban areas, have had a critical role in ensuring farmers’ access to markets, increasing agricultural productivity and reducing rural poverty in the past few decades.<sup>28</sup> Rural enterprises and other opportunities for non-farm employment are often found in areas along highways connecting large cities.

Technology, including ICT, along with institutional reforms, infrastructure development and improvements to human capital, has contributed to better agricultural production and to reducing poverty and hunger among smallholders. In the developing world over the past 50 years, for example, cereal production tripled while the land area cultivated increased by only 30 per cent.<sup>29</sup>

ICT has an instrumental role in supporting smallholders’ decision-making, ranging from which selection of commodities to plant to which markets to sell their produce. Because the impacts of climate change and increasing market access can make decisions more complex, the role of ICT for decision-making becomes even more significant. There are already successful cases in which digital connectivity supports rural farmers to sell their commodities at a good price, to make agricultural extension services more accessible and to make irrigation more efficient in various countries in Asia and the Pacific. ICT devices are also used in regulating illegal fishing.<sup>30</sup>

## Demographic changes in rural–urban transitions

Rural–urban migration can diversify income sources for rural households. But demographic changes point to an increasingly vulnerable rural population with larger proportions of female and ageing farmers who face risks and shocks associated with climate change, natural disasters and environmental degradation.

In Asia, the proportion of women in the agricultural labour force varies from country to country—it exceeds 50 per cent in Bangladesh, while it is decreasing in others, such as Malaysia. The feminization of agriculture reinforces the existing barriers to productivity increases, for example, through women’s limited access to and use of secure and quality land, agricultural inputs, technology, extension services and credit. There is an average yield gap between men and women, at around 20–30 per cent, that can be attributed to the unequal access to resources. If women were able to achieve the same yield levels as men, agricultural output in developing countries would increase by 2.5–4 per cent.<sup>31</sup>

With outmigration of working-age people, the agricultural workforce is increasingly aged, and a growing proportion of older people now live independently in rural areas and are more vulnerable.<sup>32</sup> The number of farmers is expected to shrink further.<sup>33</sup> In Japan, where lower fertility and continued urbanization exacerbate the decline of rural populations of working age, some 896 municipalities (out of 1,800 total), mostly in rural areas, will lose half of their female population of childbearing age by 2040, resulting in smaller rural populations and a high risk of dismantlement.<sup>34</sup> This will further accelerate young people’s migration to urban areas as well as the loss of unique cultures and traditional values.

As these trends converge, rural poor households will continue to face many challenges if there is no specific support and without a wider strategic approach to the rural–urban transition.

### **3.3 Addressing the needs of fragile, vulnerable and marginalized rural populations: Issues and challenges**

The regional megatrends likely will lead to a more fragile, vulnerable and more marginalized rural population who face diminishing access to land and natural resources and increasingly unfavourable terms of access to markets and services. Several policy challenges thus confront the efforts to eradicate poverty and promote prosperity in rural

areas in the context of the rural–urban transition. Poverty reduction efforts in rural areas take place in the broader context of economy-wide structural change. This process entails improved agricultural productivity, commercialization and diversification of production patterns and the release of labour from the agriculture sector to then shift to the manufacturing and services sectors. Structural change, however, does not automatically lead to the inclusion of marginalized groups, including the rural poor.

#### **Recognizing the diverse needs of rural households**

Rural people who are poor are diverse and include those working in plantation sites, contract farmers, individual farmers and those involved in off-farm activity. Economic opportunities in the rural areas must address both agricultural and off-farm potential. Supportive interventions must support this diversity. They must strengthen corporate compliance with labour laws and regulations. They must also offer technical assistance, financing and human capital development to ensure that structural change, which is necessary for the long-run success of poverty reduction, does not leave the rural poor behind.

Regional and global integration drives changes in supply chains and technology use in the agriculture sector. These technological innovations in agriculture and market changes (access, logistics and producer-distributor relationships) can easily sideline smallholders, leading to greater inequality.

Better data—both quantitative and qualitative—will be critical. Local and national governments need to improve data collection for needs assessments and effective policy analysis and interventions; in the meanwhile, local communities and non-government organizations with solid knowledge of the local needs can likely fill the data gap. Collaboration with these organizations should be considered as a basis for effective interventions.

## Ensuring access to basic services

Multidimensional poverty measures reveal that investments in meeting the most fundamental needs remain critical yet lacking, including access to health care, education, safe drinking water and electricity. Educational poverty<sup>35</sup> and health poverty,<sup>36</sup> components of the MPI, typically concentrate in rural households and households in which the head is not working or is working in agriculture.<sup>37</sup>

For example, 277 million people in the region still lack access to safe drinking water,<sup>38</sup> and 417 million people lack access to electricity.<sup>39</sup> Most of them live in rural areas, where income largely determines access.

On average, energy expenses consume a large portion of income among poor households in many developing countries. Such households pay, on average, eight times more for the same amount of energy than other income groups.<sup>40</sup> Generally, about 20–30 per cent of annual income is spent on energy fuels and an additional 20–40 per cent on indirect costs associated with collecting and using the energy, such as injuries and lost time.<sup>41</sup> In the region, 1.8 billion people still rely on traditional fuels. Dependence on traditional fuels contributes to deforestation, degradation of forests and loss of biodiversity in many communities. Collection and use of traditional fuels causes time poverty and impacts the health of women and children.

Policies to encourage investment in infrastructure are fundamental to rural development. The development of rural infrastructure, rural–urban links and links between major cities through rails and roads has had significant importance in connecting urban growth with rural development in East, South and South-East Asia.<sup>42</sup>

## Strengthening and protecting access to natural resources and incentivizing the sustainable management of natural resources

It is critical to strengthen and protect the rural population's access to natural resources as part of the rural–urban transitions, particularly forest resources, because a substantive portion of their

income and food derives from these resources.

According to a field study in Asia and other regions, forest-based income constitutes 20.1 per cent of average household income in rural areas of tropical and subtropical Asia.<sup>43</sup>

The reliance on forest for income differs, depending on household income levels—reliance is greater in poor households than in non-poor households. However, forest income is much higher in the non-poor households in absolute amounts.<sup>44</sup> Forest ownership and use rights are key to determining the level of forest resource sustainability, forest income and food security of the rural populations.<sup>45</sup>

While the 2030 Agenda advocates for the sustainable management of natural resources, their value is not adequately reflected in market prices of natural resources. The incentives for long-term investment are diminishing, yet are increasingly critical to stem the loss of natural capital. Strengthening the incentives framework for the sustainable management of natural resources and aligning this with wider food security and poverty eradication objectives at the national level will be critical for rural livelihoods.

## 3.4 Responses and opportunities

Policy issues and challenges require responses for the provision of rural infrastructure, the sustainable pro-poor management of natural resources and schemes to support farmers, including smallholders. At the same time, it is also imperative to create systems and modalities that incentivize investments in agriculture and that correct the distortions that create incentives for unsustainable use. National policies that encourage research, development and engineering efforts are necessary for agricultural development to lift rural poor households out of poverty.

### Innovation in infrastructure provision and financing

The provision of better infrastructure and services are required to enhance productivity and

quality of life in rural areas. Technological and institutional innovations and partnerships can be better channelled to expand access to water, energy and food in rural areas.

Decentralized solar power initiatives from Bangladesh,<sup>46</sup> Nepal<sup>47</sup> and other countries and decentralized water provision in China, India and Viet Nam<sup>48</sup> that successfully involve targeted communities, including women and youth, and integrate strong pro-poor, gender and livelihood considerations present affordable and environmentally and socially sustainable solutions. They also provide welfare benefits through employment creation and strengthened social capital.

Water transfer systems, including market-based systems, enable rural people to sell water for urban use. These systems also enable urban areas to finance water efficiency in farms. Policies to strengthen the efficient and fair water allocation between rural and urban areas can contribute to rural poverty alleviation while addressing resource constraints and the need for sustainable natural resource management.<sup>49</sup>

### Community-based and participatory management approaches

Community-based and participatory natural resource management generally improves local livelihoods, resulting in reduced levels of poverty, improved forest quality and enhanced biodiversity conservation. It also leads to strengthened governance through increased community participation, empowerment and effective institutions at both the local and national levels. Improving the quality of forests and increasing their cover lead to climate mitigation. Significant features include the involvement of stakeholders in decision-making that impacts their lives and the empowerment of communities with rights and the responsibility to sustainably manage their natural resources.

Community-based forestry management is practised in various countries in the region. It is practised in large proportions of forests in Papua New Guinea, the Philippines and China, where almost 99 per cent, 61 per cent and 60 per cent of total forest land, respectively, are in community possession.<sup>50</sup>

Participatory forestry management, however, is not free from constraints. Sometimes, the degree of participation is minimal (engaging stakeholders only in limited and insignificant parts of the decision-making process) and/or not inclusive (stakeholders are not equitably represented or certain groups, such as low castes, youth, women and indigenous peoples, are excluded) to the extent that a “participatory approach” is no longer meaningful. Consequences documented in studies of participatory forestry management cases in India and Nepal revealed that the poorest households’ access to forest products actually worsened and travel time to collect fuel wood increased because of expensive charges for collection in the community-managed forests.<sup>51</sup>

This evidence points to a need for a pro-poor approach to community-based forest management so that the poor populations are not adversely impacted but are integrated in such initiatives and that they significantly benefit from their participation. Community-based forest management must seek prior informed consent of a community. Specific attention must be given to disadvantaged groups and indigenous communities, including respect for their customary rights. There must be an equitable and fair sharing of benefits arising from the use of resources, including biological and genetic resources from the community-managed forests.

Among the most critical factors for successful participatory forest management implementation are wide and inclusive representation of stakeholders, including the involvement of local users (especially those who are poor, who are generally women). Other critical factors include local users’ participation in informed decision-making processes, support from forest department staff and a favourable local setting, including a consensus on desirable uses of forest products and protective means against outsiders and those who infringe the agreed rules.<sup>52</sup>

### Farmers’ organizations

Farmers’ organizations, particularly self-organized cooperatives, must be supported to enable small farmers to access the technological and market changes that are an important facet of the

rural–urban transitions. Farmers’ organizations can augment negotiating and bargaining power of farmers to sell products at higher prices, increase the chance to have their voices heard by policymakers and the public and reduce the transaction costs, such as transport and access to markets.

These institutional arrangements empower small farmers and help them overcome challenges related to the high transaction costs and in gaining access to markets and public services. Engaging youth through such organizations also strengthens innovation.

There are government-driven and non-government-driven farmers’ organizations. Government-driven cooperatives aim to deliver essential agricultural services. In many cases, however, these government-driven cooperatives face distrust by farmers because they have been seen as controlling rather than empowering farmers.<sup>53</sup>

Member-driven self-organized cooperatives have been found to contribute more to poverty-alleviation efforts.<sup>54</sup> Nevertheless, cooperatives should be funded by members’ contributions and income-generation activities for the sake of financial independence and autonomy.<sup>55</sup> Enhancing networks with local, national, regional and international connections can strengthen competitiveness.<sup>56</sup>

In India, the National Dairy Development Board promotes, finances and supports milk production and distribution networks by organizing milk producers at the grass-roots level. It has helped to organize the Indian Dairy Cooperative, comprising a network of more than 100,000 village-level dairy cooperatives with 12.3 million members and accounting for 22 per cent of the country’s milk production. About 60 per cent of its members are landless or smallholder farmers, and a quarter of its members are women. This model was considered successful and subsequently replicated for the fruits and vegetables market.

National governments can support poor farmers’ formation and improvement of farmers’ organizations by recognizing in law their right to freedom of association, putting

in place favourable legislation that promotes cooperatives (through simplified administrative procedures and easy and affordable registration), meeting farmers’ needs in capacity-building (improving business skills, including accounting and leadership), helping their financial services link with local financial services to reduce operational burdens and risks of a loan portfolio and engaging farmers’ organizations in designing and dissemination of agricultural research and development.<sup>57</sup>

### Policy, research and investment to support sustainable agriculture and rural development

Cross-country estimates show that GDP growth originating in agriculture is at least twice as effective in reducing poverty as GDP growth originating outside agriculture.<sup>58</sup> Investment in agricultural research and development is needed to increase productivity and to enhance the ability of farmers to meet future food demands while coping with climate change and resource scarcity. The rate of returns to agricultural research development investment ranges from 40 per cent to 60 per cent and does not decline over time.<sup>59</sup> In Asia and the Pacific, it is estimated that a modest increase in agricultural productivity between 2016 and 2030 would lift an additional 110 million people out of poverty.<sup>60</sup> Yet, public spending on agriculture in the region is not commensurate with the sector’s importance in the overall economy; compared with other regions of the world, the region’s average agricultural research spending relative to agricultural GDP is lowest.<sup>61</sup>

In addition, government initiatives and support are necessary to complement and strengthen the efforts by rural communities and farmers for rural poverty reduction. Strengthening the sustainability dimensions of all investment in the rural sector is critical. Trade and investment agreements can benefit from reference to the Principles for Responsible Agricultural Investment that respects rights, livelihoods and resources.<sup>62</sup> These considerations and governments’ commitments to sustainable, inclusive rural development need to be reflected in government decisions regarding the regulation of investments and trade agreements and in the design of social

protection schemes for people who are poor. These are among areas in which governments' commitments to sustainable, inclusive rural development are particularly critical.

### Modalities to encourage investment in the sustainable management of natural resources and responsible agricultural investment

The incentives for the sustainable management of natural resources, including sustainable agriculture and sustainable forest management, can be strengthened through demand-side interventions, such as eco-labelling and eco-certification, which help to meet the rising demand for safe and fairly produced food. At the same time, such interventions must engage small farmers in the supply chain governance of agri-food systems to ensure that they are able to work with the additional requirements and processes of new standards and certification schemes (box 3.2). These measures can be combined with awareness-raising among consumers and partnerships between farmers and urban consumers, including internet shopping via ICT, with effective delivery services.

Financing through innovative mechanisms, such as payments for ecosystem services (PES), have successfully brought together the interests of economic sectors (such as hydropower production and tourism) with forest management. They are now operating in various countries, including China, India, Indonesia, the Islamic Republic of Iran, the Philippines and Sri Lanka. Ecosystem management is critical to prevent the negative impacts of climate change, which is projected to pose increasing risks to the region through floods, landslides and other weather events.

A recent literature review of research suggested that the link between a PES scheme and poverty alleviation is not yet clear but the researchers concluded that ecosystem services support well-being and perhaps prevent people from becoming poor.<sup>63</sup> Documented practices show that the integration of a pro-poor approach into a PES design is critical for the sustainability of the scheme.<sup>64</sup>

Other factors for successful PES schemes include making payments using non-monetary goods and services, such as education, to avoid corruption and the unfair distribution of benefits. They also include involving honest intermediaries between buyers and sellers, combining livelihood improvement and the provision of a critical resource, such as water, in the design of the scheme, as well as appropriate land tenure and rights.

Authorities in Lam Dong Province in Viet Nam piloted a PES scheme in 2008 for forest conservation to protect water quality, prevent soil erosion (that results in the silting of hydroelectric reservoirs), encourage the harvest of natural forest products and maintain the aesthetic landscape for tourism. A legal framework was established for the scheme for the collection and distribution of the economic value of the ecological services provided by the forest in Lam Dong. The project resulted in continuous forest protection and management service and improvement of economic conditions of households who protected the forest.

By 2010, the Lam Dong PES activities resulted in protection of 209,705 hectares of threatened forest land. In a few years' time, the scheme collected \$4.46 million and benefited 9,870 households, including 6,858 ethnic minorities and poor forest dwellers. Each participating household received \$540–\$615 per year, a 400 per cent increase in income over the previous forest protection payments by the Government. In addition to the improved economic conditions of the community, the PES scheme supported forest protection patrols, which halved the number of reported cases of illegal logging and wildlife poaching in a watershed area.<sup>65</sup>

### Action through trade

The effectiveness of these measures will depend on alignment and coherence with national economic, social and environmental policies. Regional and global cooperation will be needed to limit international influences that can exacerbate rural poverty within a country, for example, through impacts on food security.



### Agri-food governance and certification systems

Consumers increasingly demand products that are produced and marketed in a sustainable and responsible way. Markets have responded to this trend with sustainable certification systems. These certification systems exist most notably for bananas, coffee beans, cacao, palm oil, soybeans, sugar and tea makers across the Asia-Pacific region, including Australia, China, India, Indonesia, Japan, Malaysia, the Philippines, Papua New Guinea, Sri Lanka, Thailand and Viet Nam. Although this trend is a positive step towards sustainable practices, the new trend has produced some challenging outcomes.

Smallholder farmers have smaller production units and, as a rule, tend to have higher overall transaction costs, reduced marketing capacities, limited access to efficient production technologies and, correspondingly, reduced access to international markets. Private sector certification systems and voluntary standards for sustainability have sought to overcome these challenges through sustainable practice regulation. However, standards typically imply additional requirements and processes, which can potentially introduce new barriers to market entry for small farmers. This has created a market paradox—while the objective of sustainable certification was to increase sustainability practice and to assure that those most in need have access to markets, the reality is that due to high entry costs, medium- and larger-sized farmers are more capable of affording the costs associated with sustainable certifications for market entry, thus taking up a larger portion of the market share and further pushing small farmers out. This paradox is a result of market globalization, in which consumers and private sector demands in the industrialized world (North) are driving supply chain decisions that directly affect producers in the developing world (South). Participatory governance in the global South to drive supply chains is severely lacking, resulting in a paradox of mismatched results. While consumers in the North demand sustainable goods, this is unachievable without sustainability dialogue with producers in the South.

The literature suggests there are two main tenets to overcoming the paradox of sustainable certification systems. The first is ensuring that there are mechanisms for empowering stakeholders to participate in supply chain management decisions to legitimize the sustainable certification standards and pathways for entry. The second is to reduce barriers to certification systems. The latter can be done by enabling producers to organize and undertake certification as a group or with capacity assistance from commodity technical specialists, social lenders or other stakeholders seeking to enable access to finance for sustainable producers in the agriculture sector.

Various organizations in the region have already engaged in this area. This has resulted in new investment in infrastructure for market access, organized representation of stakeholders and enhanced cooperation between social lenders and farmers dedicated to enabling sustainable supply chains. However, to ensure future sustainable practices and inclusion, more needs to be done to ensure that producers are engaged in the supply chain governance of agri-food systems.

Source: Potts and others, 2014.

The regional output of an agricultural product is far less variable than the output in individual countries. International trade is therefore a potentially powerful tool to smoothen supply

fluctuations across countries in a region and, as a result, to reduce price volatility. Adherence to common principles to support the free flow of traded commodities among countries will

be critical to protect the rights of rural poor populations. Regional and international dialogues can have an important role in preventing practices that undermine those principles.

### **3.5 Conclusions: Rethinking rural development strategies**

Challenges for rural poverty eradication include increasing pressures on rural land and resources that households depend on for their survival, the corporatization of agriculture that pushes smallholders away from their land and the feminization and ageing of agricultural labour that puts increasing burden on women and older persons.

Urbanization is a major driving force behind these challenges. Yet, as evidenced in various places in the region, urban development, if linked effectively with rural areas through rural infrastructure, can help reduce rural poverty. Thus, urbanization should not be seen in isolation, separate from rural areas, but it should be regarded as an integral part of the solutions to the rural challenges.

Fundamentally, the strength of rural areas lies in its people and abundant nature. The question is how nature can be best invested in for its sustainable and equitable use for both rural and urban benefit and how people, including those who are poor or marginalized and youth, can be engaged when seeking localized solutions. Together with broader partnerships to share the vision of sustainable rural communities, the responses highlighted in this section can strengthen the social contract for rural poor populations and small farmers in particular.

In assessing the changing needs of the rural poor populations, qualitative and quantitative data that are disaggregated for rural and urban areas and by sex are necessary. Knowledge and experience sharing as well as policy dialogues at the regional level may support strategic policymaking for issues critical to rural development in a changing context.





# CHAPTER 4

## Infrastructure development for tomorrow



## 4.1 Introduction

Developing countries in Asia and the Pacific have built more energy, ICT, transport and water and sanitation infrastructure than any other developing region in recent decades. Infrastructure has a vital role in delivering all the other SDGs and efforts to eradicate poverty in all its forms (box 4.1). Despite the significant progress, however, many people still lack access to basic infrastructure.

Infrastructure is defined in terms of both the physical structures in such sectors as electricity, transport (including roads, rail and sea), telecommunications and water and sanitation and the services these assets provide (such as mobility, lighting and connectivity).<sup>1</sup> These services are essential for poverty reduction in all its dimensions<sup>2</sup> and for supporting wider development efforts, including the provision of health care and education.

The greatest infrastructure deficits are often found in the poorest countries and in the poorest parts of countries. Most countries in the region have ambitious plans to overcome those deficits. How governments choose to bridge the infrastructure will have profound implications for their people and for the entire planet, including for climate change responses. Properly planned, implemented and accessible infrastructure is fundamental to advances across all the SDGs.<sup>3</sup>

This chapter considers the opportunities for delivering infrastructure to help end poverty and promote prosperity in Asia and the Pacific. Section 4.2 reflects on the implications of trends in infrastructure, including the megatrends highlighted in Chapter 1, for poverty eradication and prosperity. Section 4.3 considers issues and challenges related to delivering sustainable infrastructure, with a focus on governance and finance. Section 4.4 considers options to respond to these challenges, drawing on lessons and experiences from the region that can help inform policy choices.

## 4.2 Infrastructure development in a changing context: Trends and prospects

Diverse approaches to delivering different types of infrastructure have been trialled across the region. The policy context and resource endowments affect the options available to countries and how infrastructure can be used to reduce poverty and expand prosperity. Some countries may have special needs, including least developed countries and small island developing States.<sup>4</sup> In addition, several trends will affect projected infrastructure investment needs.

There are persistent gaps in access to infrastructure. As already noted, some 417 million people in the region still lack access to

### Box 4.1

#### Infrastructure and the Sustainable Development Goals

SDG 9 seeks to promote resilient infrastructure and inclusive and sustainable industrialization and to foster innovation. It stresses the need for connectivity infrastructure in transport and information communication, with a focus on quality, accessibility and affordability. The SDG 9 targets also highlight the need to upgrade and retrofit infrastructure to make it more efficient and sustainable. Other SDGs focus on extending access to specific types of infrastructure, including ensuring water and sanitation services for all people (SDG 5) and access to affordable clean energy (SDG 6). Goals related to urbanization (SDG 11), consumption and production (SDG 12) and climate change (SDG 13), among others, are also closely linked to the provisions of infrastructure.

electricity,<sup>5</sup> 277 million do not have access to safe drinking water and 1.52 billion lack basic sanitation.<sup>6</sup> Covering these last mile infrastructure needs is a substantial challenge for the region. Infrastructure can have an important impact on poverty when integrated with wider development efforts. For example, while road connectivity, energy and irrigation services increase the ease and reduce the costs of access to markets and non-farm jobs in rural areas, the impacts on poverty are greater if such efforts are coupled with other development measures, such as health care and education programmes.<sup>7</sup>

Public expenditure on infrastructure is poised to grow. In 2015, around \$900 billion was spent on infrastructure in the developing countries of Asia and the Pacific, reflecting about 6 per cent of regional GDP.<sup>8</sup> Nearly three-quarters of this spending took place in China. The total anticipated financing need (including measures to mitigate and adapt to climate change) is estimated at \$26 trillion between now and 2030, or about \$1.7 trillion a year, equivalent to 5.9 per cent of the forecasted GDP.<sup>9</sup> Much of this future investment is needed in China, in part because of its focus on replacing old infrastructure. The investment needs are greatest in capital-intensive sectors, such as electricity (56 per cent) and transport (32 per cent), particularly for expanded road building.

The projected water and sanitation needs focus on urban areas, but the needs in rural areas are also substantial. Infrastructure needs are difficult to cost and project accurately, however, and many factors will affect actual investments, including technology choice, financing models and such macroeconomic issues as future growth in the region.<sup>10</sup>

Only a modest share of this projected infrastructure investment need is required to provide access to those who presently live without basic infrastructure services. A review of literature on the costs of extending access to energy suggests these represent a relatively small share of total demand for energy infrastructure investment, at \$135 billion to \$150 billion between 2016 and 2030.<sup>11</sup> Similarly, a review of research and studies on extending universal access to water and sanitation, including in rural

areas of Asia, suggest that it is likely to require investment on the order of \$350 billion by 2030.<sup>12</sup> These are substantial sums, but they are relatively modest compared with the anticipated total infrastructure investment. Nonetheless, it is often difficult to generate revenue from such investments, which will create particular challenges in raising and directing finance towards these activities.

At the same time, the quality of existing infrastructure must be strengthened, and infrastructure must be better maintained, especially where outages and disruptions are frequent. About 42 per cent of the total infrastructure investment projected in the region is for maintenance. The region needs to build infrastructure for a sustainable future that is compatible with the social and environmental goals, thus limiting air and water pollution, promoting efficiency of resource use and reducing associated greenhouse gas emissions as much as possible.<sup>13</sup> Infrastructure that is better suited to a changing climate is essential for building resilient communities and economies; for example, rising sea levels will particularly affect road and transport infrastructure in coastal areas.<sup>14</sup>

Clean technology is increasingly viable and can close the infrastructure gaps while reducing costs. Some Asian countries, including China and India, have emerged as leaders in clean energy technology, investing in some of the largest volumes of clean energy at some of the lowest costs (see box 4.2).<sup>15</sup> Decentralized renewable energy systems are now addressing the previously unmet needs of some of the poorest and most remote inhabitants of the region, particularly in rural areas, in diverse countries (such as India, Mongolia and Nepal). Several Pacific island States, including the Cook Islands and Fiji, have ambitious targets to switch to 100 per cent renewable energy.<sup>16</sup> Much progress remains to be made in increasing the share of clean technologies in the overall energy mix. But countries across the region are recognizing potential opportunities.

These infrastructure development challenges and opportunities are shared by almost every country of the region. They are also affected by wider

## Box 4.2

### The clean energy technology revolution in Asia and the Pacific

The costs of renewable energy have plummeted in recent years. Policy and procurement innovations in Asia are bringing renewable energy online at low cost. For example, auctions in India's Rajasthan State in late 2015 resulted in Fortum FinnSurya Energy offering to provide solar energy at \$64 per megawatt hour, and in January 2016, Andhra Pradesh State procured solar power at \$69 per megawatt hour from SunEdison and SoftBank Group Corp, which was nearly half the global average cost of solar power in 2015. Private investment in off-grid energy is increasingly commercially attractive and viable, and it is encouraged by policy and government investment in many countries. Investment in the small (less than 1 MW) distributed renewable energy market in China grew by 81 per cent in 2015, to \$5.5 billion. Companies in China, India and Thailand are emerging as key players in a vibrant new small and pico renewable energy markets.

Further cost reductions of 60 per cent for solar energy and 40 per cent for onshore wind are anticipated by 2040. Anticipated advances in energy storage technology and associated cost reductions could open up new opportunities for renewable energy technologies to meet energy needs at low cost.

Source: Frankfurt School-UNEP, 2016; BNEF GOGLA and World Bank Group, 2016.

regional trends, with important implications for regional efforts to eradicate poverty and promote prosperity, as discussed further on.

### Rural–urban transitions

Infrastructure has an imperative role for rural and urban communities, connecting and enabling the two-way movement of people, information and opportunities.<sup>17</sup> Although Asian cities have emerged as hubs of innovation and business, as discussed in Chapter 2, infrastructure provision has not kept up with their rapid growth. The lack of access to sanitation and safe drinking water in urban areas, particularly for poor households, is an important issue for well-being and non-income poverty.

Many cities are grappling with interconnected transport challenges: Growing reliance on private vehicles drives congestion and air pollution, with severe health impacts; safety is a big problem, with many people killed in road accidents, and concerns about personal safety on public transport may dissuade its use. Cities already account for 60–80 per cent of energy consumption and 75 per cent of greenhouse

gas emissions in the region. Yet, there are many opportunities to promote the use of clean technologies and increase efficiency in urban areas through smarter infrastructure provision.<sup>18</sup>

As Chapter 3 highlighted, extreme poverty persists in rural areas, where access to infrastructure tends to be lower. People without access to electricity largely live in rural areas. In Cambodia and Myanmar, for example, the rate of rural electrification was less than 20 per cent in 2016, while in urban areas it was 97 per cent in Cambodia and 59 per cent in Myanmar.<sup>19</sup> More than 35 per cent of the region's total population still lacks internet access, and most of these people live in rural areas.<sup>20</sup> Integrated approaches to infrastructure planning that consider the rural–urban links and approaches to meet the differing needs of stakeholders can help countries better manage the rural–urban transitions.<sup>21</sup>

### Digital connectivity

ICT is transforming Asia and the Pacific. Nearly 45 per cent of the region's total population had mobile internet access in 2016, which was a 250 per cent increase over the previous five years.

The share is expected to increase to 70 per cent by 2020. More than 60 per cent of the region's population subscribed to mobile telephone services in 2015.<sup>22</sup> The full potential of these innovations remains to be realized, however, especially because access to ICT is uneven: Some 2.5 billion people who lived in areas with mobile internet did not use those services in 2014. In some countries, notably in the Pacific, costs are currently high, although interventions are improving service.<sup>23</sup>

Expanded access to ICT opens up many possibilities to design smarter infrastructure and associated services that can support prosperity in the region. For example, smarter energy and water metering systems can help households manage their consumption and associated costs. ICT is already beginning to be used to support traffic management and transportation systems, particularly in urban areas.

### Changing demographics place diverse demands on infrastructure

Changing demographics, including ageing, gender and migration dynamics, will have significant implications for future infrastructure needs. Even though most of the Asia and Pacific population is of working age, populations are ageing quickly in many countries.<sup>24</sup> In most countries, infrastructure planning has focused on the needs of young and working-age populations, but infrastructure will need to evolve to accommodate the needs of older people, too. For example, ageing will pose new demands for transport solutions for those with reduced mobility and for long-term care facilities. Reduced population density in some areas may affect the future viability of providing infrastructure services.<sup>25</sup>

Infrastructure is closely linked to gender equality. The time burdens for collecting water and fuel and for family care work, which fall disproportionately on women, may be eased through access to water, energy, sanitation and transport.<sup>26</sup> Access to ICT can also support women's empowerment by providing them with access to information and opportunities for social engagement.<sup>27</sup>

Men and women use infrastructure services differently. For example, women's use of public transport is affected by many factors, including safety, lighting and access to toilets. Ensuring gender sensitivity in infrastructure design is thus essential to maximizing contributions to poverty and prosperity.

Migration is another element in the region's changing demographics. Access to infrastructure can be a factor in decisions to migrate. Finding appropriate solutions to migrants' needs for basic infrastructure, such as housing and sanitation, is a significant challenge.

### Regional cooperation and integration

Government cooperation in the region has included a focus on infrastructure, particularly roads and transport. For example, in 2010, the Association of Southeast Asian Nations (ASEAN) developed the Master Plan on ASEAN Connectivity, from which 18 projects were completed.<sup>28</sup> A new plan was adopted in 2016.<sup>29</sup> The Central Asia Regional Economic Cooperation (CAREC) programme, initially fostered by development partners, has included several initiatives to upgrade and rehabilitate road networks. Infrastructure also has been a prominent feature of efforts to connect countries in the greater Mekong subregion. ESCAP member States have been cooperating for decades to develop an integrated Asian highway network that meets common standards. New efforts, such as the China-led One Belt One Road initiative, also seek to strengthen Asian connections with Europe. Finally, maritime connectivity is particularly important for Pacific countries (box 4.3).

The integration of infrastructure networks has been pursued as a way to enhance the free flow of goods and services across borders by maximizing synergies between countries' resource endowments.<sup>30</sup> For example, regionally integrated energy and water systems can allow countries to benefit from each other's resources and maximize complementarities. Despite the potential, however, it can take many years for regional cooperation programmes to build the requisite momentum and demonstrate benefits.



## Box 4.3

### Maritime infrastructure in the Pacific

Maritime transport infrastructure is vital for linking Pacific countries to global and regional markets. Pacific maritime transport systems, however, are characterized by low connectivity, high transport costs and ship-source oil pollution. The Pacific only has direct liner shipping connections to countries in East Asia, Australia, Canada, New Zealand and the United States. Most of the 31 international ports in the Pacific are owned by national or provincial governments, and facilities vary greatly. For instance, in Nauru, general cargo vessels must anchor offshore while cargo is discharged to lighter boats; in Suva and Fiji, a heavy-duty wharf is capable of supporting heavy-duty lifting equipment. Efforts to strengthen maritime infrastructure and establish regionally managed hubs with multiple facilities are now underway, with the goal of improving connectivity.

Source: Pacific Islands Forum Secretariat, 2016; Pacific Region Infrastructure Facility, 2016; Solofa, 2009; United Nations Conference on Trade and Development, 2014.

Regional infrastructure often focuses on economic priorities rather than targeting the needs of poor populations. Regional infrastructure has often relied on conventional technologies and approaches and raised complex questions about how to manage impacts on people and the environment in a transboundary context. Planning and implementation processes need to be strengthened to realize the efficiencies and environmental sustainability.

### Natural resources and infrastructure

Infrastructure development is closely intertwined with the region's growing demand for natural resources. But infrastructure can increase the pressures on natural resources. Indeed, demand for land is a primary consideration in the siting and construction of infrastructure. Infrastructure assets are often resource intensive. While access to infrastructure enables activities that lead to natural resource production, extraction and processing, infrastructure construction can also link to the loss of important natural resources and ecosystems.

Poor people may be particularly impacted in such processes, as discussed in Chapter 3. For example, the construction of roads in forested areas can drive deforestation. Natural resources also provide natural infrastructure services. Wetlands, for instance, can provide buffers against flooding more effectively than dams, and they provide

some of the same filtration functions as built water-treatment plants. Protecting natural ecosystems thus can avoid the need for new infrastructure.

Efforts are needed to both minimize the negative impacts of infrastructure on the environment and to support prosperity in the region. These measures are essential to ensure the sustainability of infrastructure. In addition, better governance of natural resources and the environment is an essential complement to infrastructure development.

## 4.3 Governance and finance: Issues and challenges

This section outlines issues and challenges for governance and finance in delivering infrastructure that works to eradicate poverty, expand prosperity and achieve the 2030 Agenda. Technology innovation is a cross-cutting aspect of both these issues. These themes are echoed in the wider literature and policy debates on meeting the infrastructure-related demands of the 2030 Agenda.

## Governance

Delivering infrastructure that will realize the SDGs poses a complex challenge of governance, including issues related to planning, environmental and social management, policy and regulatory frameworks and oversight processes.<sup>31</sup> In addition, the risks of corruption and poor management of infrastructure programmes are well recognized, particularly in the large-scale programmes.

**Planning and selection:** Infrastructure planning and investment requires governments to make long-term commitments of substantial public resources and to do so with limited information on future needs as well as the financial and environmental implications. The needs of poor populations may not always be the focus, and poor people may be less able to influence the planning and policy processes. Infrastructure planning processes may be ad hoc or incomplete.

Subjective assessments and institutional interests may shape preferences. Changing technologies and associated costs are reshaping the underpinnings of sectors, such as energy and transport. New information on options and changing costs, including over the course of a project's lifetime, are not always reflected in decision-making.<sup>32</sup> Political interests, which are usually tied to short-term electoral cycles, often determine which projects or approaches are prioritized.<sup>33</sup> Integrated approaches to planning are rare, and better tools and systems are needed to identify cross-sector links and opportunities for regional optimization at various levels (within provinces and cities, from the local to the transboundary levels).

**Managing environmental and social impacts:**

Infrastructure provision can have serious social and environmental impacts, which may be particularly severe with large-scale projects.<sup>34</sup> The impacts on people affected by the siting, construction and operation of infrastructure, particularly the impacts on vulnerable indigenous peoples and ethnic minorities, need to be addressed. Conflicts over the siting of new infrastructure are increasingly common across the region. Practical ways to make infrastructure selection and design processes inclusive,

responsive to people's needs, affordable and gender sensitive are needed. As previously noted, better environmental and social governance is a critical complement to infrastructure development.

**Policy and regulation:** Incentives for infrastructure service delivery that also achieves environmental and social objectives need to be strengthened. State-owned enterprises have a central function in many sectors, including energy and water. Governments have responsibility for providing roads, particularly in rural areas. In many cases, there has been reliance on conventional technologies, with limited incentives for efficiency and weak financial management. Efforts to reform policies and regulations that govern infrastructure have been underway for some time. It can be difficult to balance cost recovery with affordability. Controversies may ensue when prices charged for services, such as electricity, water and road use, are increased in this context. These controversies may be politically challenging when private actors take over from public providers. In many cases, policy and regulatory frameworks do not yet adequately accommodate new technologies, such as off-grid energy systems, or players that may be able to provide better-quality infrastructure services, including to unserved communities and poor households.

**Oversight and management:** A critical but often underemphasized aspect of infrastructure is maintenance. Planning processes often focus on adding new supply and raising finance for the initial investment needed rather than on maintaining and maximizing the impacts of planned assets. Incorrect use or poor maintenance of key assets can lead to deterioration in the quality of the service provided and will reduce the assets' useful life. Better choices about how to use existing infrastructure that also plan and provide for maintenance (including as part of programme design and operation structuring) and that manage the demand for infrastructure can all help improve the contribution that infrastructure assets make to sustainable development.<sup>35</sup>

Good procurement practices are imperative. For example, the selection of poor contractors who do not deliver on schedule can result in significant cost overruns. If projects are not well designed or

delivered to agreed specifications, maintenance costs may be much higher than expected. Wasted expenditure and poor service quality may result.

## Finance

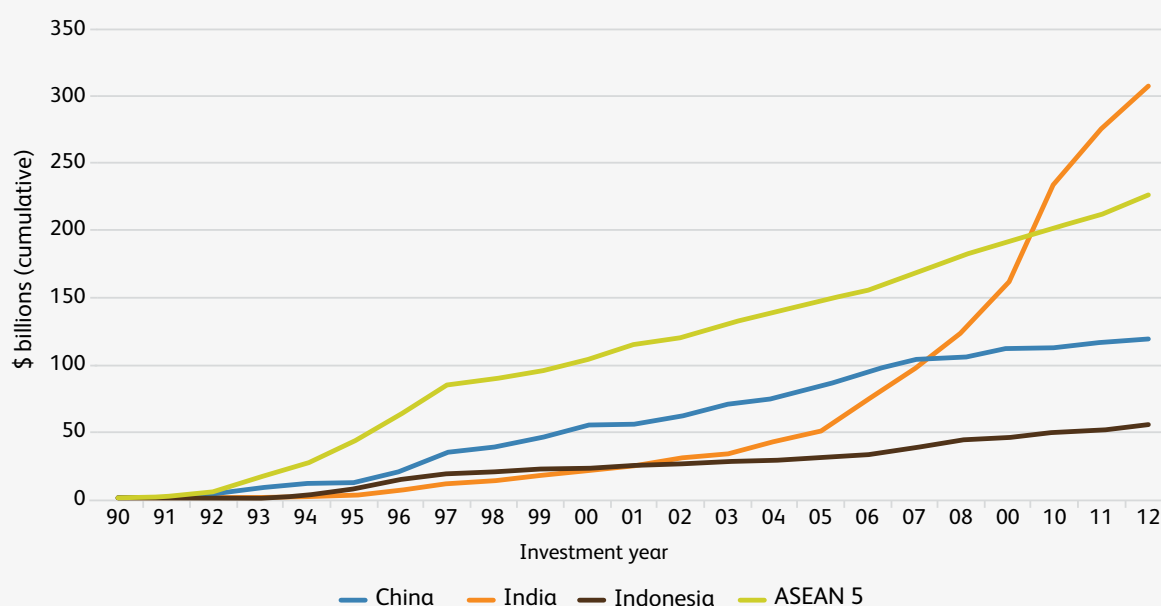
**Finding the money:** The public sector provides more than 90 per cent of infrastructure finance, equivalent to about 5.1 per cent of regional GDP.<sup>36</sup> Public finance has been especially central to transport and water infrastructure and in lower-income and small island States. Infrastructure can represent a significant burden on public finances in most countries. Furthermore, governments often use a range of subsidies and tax concessions to encourage investment in certain types of infrastructure or to enable user access. But subsidies may not target the intended beneficiaries effectively, even though they may be designed to protect the poor, or they actually may perpetuate reliance on carbon-intensive or outdated technologies.

There is now strong interest in diversifying the sources of finance for infrastructure, including publicly operated infrastructure. For example, some infrastructure-related state-owned enterprises are now raising funds from commercial sources and development banks without sovereign support due to increasing public debt levels. The viability of attracting new sources of finance, particularly from the private sector, depends on the type of investment and the country context.

**Effective public private partnerships:** Establishing effective partnerships with private actors to deliver infrastructure is of substantial interest but can be challenging. Private participation in infrastructure finance has increased in many countries in the region, although it accounts for less than 10 per cent of total investment (figure 4.1). Private investment has been most prevalent in energy and ICT infrastructure, enabled in part by regulatory reforms aimed at attracting private participation. Even in industrialized countries, public-private

Figure 4.1

### Private sector participation in infrastructure finance in Asia, 1990–2012



Source: Hudgins, and Sharma, 2014.

partnerships falter and encounter delays and cost overruns.<sup>37</sup> A study of public–private partnerships in India, for instance, found that delays in land acquisition and clearances resulted in average cost increases of 30 per cent associated with accumulated interest and were beyond the control of private developers.<sup>38</sup> Other issues, including macroeconomic factors, such as currency risk, and political stability, can also affect implementation.

On the other hand, private firms often have greater negotiating power with public sector counterparts and a greater knowledge of the implementing costs. Government institutions may lack the skills, expertise and incentives to design programmes that will be attractive to private investors while a fair deal for the public. It also can be challenging to direct private investment to infrastructure that responds to the needs of people who are poor if the potential for profit is more limited.

While attention has often focused on large-scale public-private partnerships, partnerships with small and medium-sized enterprises or non-government organizations to deliver programmes targeting the needs of poorer or underserved people are also relevant.

**Reconciling project and investor needs:** Debt finance from banks has dominated infrastructure finance in the region. Opportunities to expand debt finance are often constrained due to exposure limits and funding mismatches because of a need for long-term finance, and for local currency finance. A further impediment is the lack of well-developed bond markets that harness domestic savings, including in major economies in the region. Savings in the region have grown, and assets under management are increasing, although there are substantial variations between countries.<sup>39</sup>

Overall, there are deepening and increasingly diverse pools of public and private capital that could potentially be tapped to help meet the infrastructure needs.<sup>40</sup> There has been strong interest in encouraging institutional investors to take on a bigger role in infrastructure, in part because of their appetite for longer-term investments. At present, however, few

infrastructure investments have been structured to meet their financial requirements.<sup>41</sup> Returns vary substantially across infrastructure type and specific investment opportunity. Public and concessional finance is often necessary to overcome the risks or meet viability gaps, particularly in cases in which infrastructure services deliver a vital social benefit or public good without generating a sufficient financial return on investment.

## 4.4 Strengthening delivery capacity, realizing the potential of both public and private finance

The challenges outlined in section 4.3 are significant. There are many possible responses and encouraging practices across the region that can unlock the potential for infrastructure to help Asia and the Pacific build a better tomorrow. This final section of the chapter focuses on opportunities to strengthen governance and find innovative ways to mobilize infrastructure finance.

### More effective governance: Strengthening institutions' capacity to deliver infrastructure

Political conditions, cultural norms, expectations and the capacity of non-state actors to engage in decision-making processes all affect governance and institutional arrangements for infrastructure in different ways across the region. More inclusive, responsive and accountable governance can improve the contribution of infrastructure to sustainable development and to ending poverty. Sustained investment in the expertise, time and capacity of independent stakeholder groups that can provide informed, technically robust inputs into infrastructure-related policy, planning and financing processes can be an important part of the solution.

**Robust participatory planning:** Investing in informed and participatory infrastructure planning at all levels can provide a forum through which governments and stakeholders agree on the priorities for infrastructure development.

Robust planning and prioritization processes can also yield substantial financial savings and avoid wasted investment in poorly designed projects that do not meet development objectives or are not viable.<sup>42</sup> Better planning also helps mitigate infrastructure project risk. The use of tools to support effective prioritization, building on cost–benefit analysis and multi-criteria decision-making analysis methodologies can be encouraged, with a focus on the needs of poor and underserved people. Mechanisms to support the coordination of infrastructure planning at various levels, from regional to local, may help to increase the efficiency and complementarity of infrastructure investments. The important roles of local and urban government in these processes are increasingly well recognized. There is also a case for changing how implementation is monitored, from output-based measures (such as kilometres of road constructed) to outcome-based measures (such as the number of people with improved physical connectivity).

***International policy processes can reinforce national implementation:*** As of 2018, countries will be asked to review their progress on implementing their Nationally Determined Contributions under the Paris Agreement on climate change. Infrastructure choices will be central to these strategies and better planning will be essential in making progress. International organizations, including development banks and expert groups, have supported better planning and could step up such efforts in response to expressed interest from national governments and associated stakeholders.

***Sound government policy and regulation:*** Government policy and regulation are essential in shaping outcomes, including for poverty reduction. For example, policies and regulations that govern electricity generation, connection to the grid and tariffs for different energy sources shape the viability of renewable energy markets. Many Asian countries have taken important steps to encourage renewable energy generation and to drive down associated costs to the point where they are competitive with conventional energy options. Continued policy and regulatory innovation, accompanied by efforts to correct market distortions that encourage business-as-usual approaches are needed. Efforts to strengthen state institutions

involved in infrastructure and to help them to do more on poverty reduction and environmental sustainability need to be sustained. Regulators reflect technical information and create new forums to understand and respond to stakeholders' interests, including those of poor and underserved customers. These arrangements can be strengthened by continuing to build the knowledge base and capacity of regulators in relevant sectors to understand the trends with respect to sustainable development in their sectors, business models and financing options.

***Better partnerships:*** Strengthening government capacity to structure and negotiate partnerships with private actors in sectors of mutual interest by enabling access to more refined technical, legal and financial skills can strengthen appropriate engagement. In some countries, specialized government units have been created to improve contract negotiation, and maintain a degree of independence from everyday government responsibilities.<sup>43</sup> The use of competitive but efficient procurement systems, robust disclosure and regular reporting to stakeholders can help strengthen the transparency and accountability of infrastructure delivery, particularly when private partnerships are involved. Development partners have provided advisory services for public–private partnerships and supported facilities, such as the International Infrastructure Support System, which is an online platform for project development. They also supported programmes to certify public–private partnerships specialists and knowledge-sharing platforms, such as the PPP Knowledge Lab.<sup>44</sup> These capacities can help overcome hurdles in project preparation and improve the chances of financial closure and successful implementation. All these measures require sustained engagement to deliver results.

***Improving data availability and transparency:*** Better data, information and transparency can enable improved infrastructure delivery to meet the SDGs in Asia and the Pacific. There are myriad of needs, but a few key issues are highlighted here. Data on infrastructure service quality can help identify potential bottlenecks and areas where service needs to be improved. Systematic public reporting on outages, disruptions and safety incidents can support better targeting of investment in maintenance or upgrades to existing infrastructure. City authorities in Chennai,

## Box 4.4

**Engaging citizens in public finance for water in the Philippines**

Social accountability processes allow citizens to be engaged, facilitating access to information, services and development benefits associated with infrastructure development. In Sibagat municipality of the Philippines, for instance, a group of citizens formed the Integrity Watch for Water Anti-Corruption Group (IWAG) to monitor the finances of water projects in their region. In a municipality in which about 20 per cent of the water budget was lost, the group brought together volunteers with different backgrounds and expertise to strengthen the integrity of processes around the provision of water and sanitation services. After receiving capacity-building training on the full cycle of public financing, IWAG members could identify potential issues and vulnerabilities to be addressed by the local government and water providers.

Source: Sandhu, and others, 2016.

India, for instance, worked with a local non-government organization to collect data on public toilets, enabling it to plan future investments to improve public sanitation.<sup>45</sup>

Transparency about project implementation and costs is necessary to strengthen accountability for infrastructure delivery and to support informed civic participation (box 4.4). Expanded access to ICT, along with new tools to process and analyse complex data, can enable improved infrastructure transparency.

### Realizing the potential of both public and private finance

Governments across the region and development partners recognize the need to find new and creative solutions for financing infrastructure to deliver the SDGs. The investment climate and other macroeconomic factors in particular countries will affect possibilities for mobilizing finance, and it may be more challenging to attract large-scale private investors to projects in smaller and less developed countries. Investor motivations will also affect outcomes, and policymakers need to be realistic about what profit-seeking private investors will be prepared to finance.

**Raising public finance:** Raising public finance remains a core pillar of the region's infrastructure strategies. A range of policy options may be possible to increase a country's public spending

or fiscal space for infrastructure spending. Expanded tax collection and management are important in most countries, given that tax-to-GDP ratios are generally low.<sup>46</sup> Some governments may be able to better capture the value of public land, for example, through leasing or selling land or through property taxes. Capital recycling by divesting from existing assets and investing the funds from sales into new projects is another strategy that some governments could explore. It may also be possible to raise revenues by introducing or increasing user charges. At the same time, the efficiency of spending can be improved, and informed and strategic decision-making about public spending priorities is needed.

#### **Budgeting and public financial management:**

Continued efforts to strengthen budgeting and public financial management processes related to infrastructure are needed, including to tackle poverty and sustainability. These measures are closely linked to efforts to raise public finance. Several countries in Asia and the Pacific have initiated development finance assessments to understand the particular mix of finance (public, private, domestic and international) that can be deployed to help them deliver on the 2030 Agenda.<sup>47</sup>

**Innovative finance:** Efforts to find new ways to raise finance for actors in infrastructure delivery, particularly for poor households, are ongoing. One area of focus has been supporting subnational

## Box 4.5

### Mobilizing finance for municipal infrastructure: Tamil Nadu Urban Development Fund

The Tamil Nadu Urban Development Fund was established in the mid-1990s to mobilize private capital for municipal infrastructure investments as a trust, in partnership with private banks. It disbursed about \$100 million in its first three years to 120 local governments and raised \$35 million in market finance for publicly owned infrastructure in two bond offerings on the basis of an AA+ rating. Repayment rates were more than 98 per cent, compared with the 23 per cent in the state-guaranteed, parastatal-financed projects. Creating a financing vehicle for municipal infrastructure had important impacts, including strengthening urban government capacities to design, finance and build revenue-generating infrastructure; improvements in the management of subsidies, pricing and service delivery; and replication of successful financing.

Source: Sandhu, and others, 2016.

entities, such as cities, to raise infrastructure financing. This can be challenging, given that many such entities have a limited track record and face constraints in accessing credit. The possibility of expanding the municipal bond market has been discussed—it is an approach that has seen some success in China.<sup>48</sup> Some subnational governments have also created funding platforms to mobilize investment for urban infrastructure (box 4.5).

Private sector participation in providing energy, water and connectivity for people who are poor has been an area of substantial innovation and entrepreneurship in recent years. For example,

off-grid renewable energy systems have become increasingly cost-effective, and a wide range of applications that respond to the needs of poor households in rural and urban areas are emerging.<sup>49</sup> Financing innovations are helping these programmes scale up (box 4.6).

Similar examples can be found in other sectors, including water and sanitation (box 4.7) and ICT. Access to ICT for remote and disadvantaged communities in countries, including India, Indonesia, Malaysia and Pakistan, has been extended by requiring industry players to pay part of their net earnings into universal service obligation funds. These funds finance service

## Box 4.6

### Extending access to solar energy in India

More than 150 million households in India are either not connected to the grid or are underserved by existing electric utilities and instead rely on expensive and polluting lighting solutions. Companies, such as Simpa Networks, are providing India's energy-poor households with solar energy on a pay-as-you-go basis. Simpa provides solar home systems that can be used for lighting and charging devices. The price of a solar home system is \$200–\$400, and an instalment system allows customers to make an initial down payment of 10–30 per cent and then choose how much energy to purchase. Mobile phone technology can be used to make choices about the service and buy credit. Proceeds go towards repayment of the capital cost of the solar home system and to sustain the company. Once fully paid (typically after two to three years), the consumer owns the system, which will continue to provide energy for the household.

Source: ADB, 2013.

## Box 4.7

**Financing sanitation for the poorest households**

Some non-government organizations have started to use philanthropic funding to provide credit for delivery of safe drinking water and sanitation. For example, Water.org provided \$11.3 million to microfinance institutions and non-government partners worldwide that have disbursed more than \$120 million in loans reaching 2.4 million people. Most of these loans go to people earning less than \$2 per day and have demonstrated they can repay them. In India, the programme facilitated more than 545,000 water and sanitation loans while maintaining a repayment rate of more than 99 per cent. This suggests a significant interest in water and sanitation loans. The success of the financing arrangements is affected by intermediary institutions' ability to raise capital and offer viable products, client commitment to these programmes and ability to repay their loans and links with providers of sanitation services who can deliver well-designed and effective solutions to people's sanitation infrastructure needs.

Source: World Bank. 2015.

expansion into areas that would not otherwise attract private investment.

The range of microfinance options available to poor households is expanding, further enabled by access to ICT. Although promising, these innovations attract only a small share of total private finance for infrastructure.

**Support for project preparation and structuring:**

Efforts to expand the number of viable infrastructure programmes that can tap the deepening pools of private finance in the region and globally and still meet diverse investor needs are underway.<sup>50</sup> Regional initiatives include the Asia Pacific Project Preparation Facility, established in 2016 to support preparation of infrastructure projects that demonstrate climate resilience, sustainability, poverty reduction impact and potential to mobilize private capital.<sup>51</sup> Global initiatives include the Global Infrastructure Facility, established in 2015 to provide integrated support to multilateral development banks, private sector investors and governments.<sup>52</sup>

The Group of Twenty (G20) forum also supports project and pipeline development through its work on infrastructure and climate funds that seek to green future infrastructure investments.<sup>53</sup> Specialized programmes that help small and medium-sized enterprises respond to the needs of poor populations for clean energy, water and ICT

could be encouraged. Preparation support needs to focus on environmentally sustainable projects, particularly low-carbon and resilient approaches. The number of project preparation support initiatives has grown recently. Initiatives need to be coordinated and coherent to ensure optimal use of scarce resources.

**Steering new sources of finance towards**

**infrastructure:** Opportunities for development banks to help attract other investors and reduce the risks that impede their broader participation in infrastructure-related projects is an area of growing focus. The Addis Ababa Agenda for Action on Finance for Development called for a global infrastructure forum to support coordination and lesson learning across development finance institutions to thus accelerate progress in delivering sustainable infrastructure. Development finance institutions can sometimes address the risks that impede wider commercial and private financial institution participation in programmes or in scaling up their investments. For example, they may be able to facilitate project bonds or the securitization of project assets to bolster institutional investor confidence. They can also help state-owned enterprises diversify their sources of financing. Countries in Asia and the Pacific are pooling their resources to create new institutions, such as the Asian Infrastructure Investment Bank and the New Development Bank, to engage on this agenda.



## 4.5 Conclusions: Better infrastructure delivery through partnership, innovation and effective governance

Building infrastructure that will enable Asia and the Pacific to eliminate poverty, foster prosperity and meet the SDGs requires grappling with multiple policy priorities.

Concerted efforts are needed to cover the last mile in clean energy, safe water and sanitation and connectivity infrastructure for hundreds of millions of underserved people. The sums of finance involved represent a relatively small share of the total anticipated infrastructure financing needed in the region, but finding the money can be difficult, given that such interventions may not always be financially viable. Focused government support for this agenda, with the help of development partners, will be necessary. Creative partnerships with underserved communities and private actors hold significant promise. At the same time, however, delivering on the SDGs requires seizing the opportunity to find better-quality, low-carbon, resilient and environmentally sustainable solutions to infrastructure needs to support continued prosperity in the region.

Strengthening the governance of infrastructure will be vital at multiple levels—from regional to local. Better planning processes are needed and must reflect social and environmental considerations, the availability of new technologies at falling costs and opportunities

to improve infrastructure management. Sound policies and regulations are essential, enabled by a capable public sector that is well placed to develop partnerships with players in the infrastructure sector, including non-government organizations. Better data on infrastructure needs and options and transparency will support these efforts.

Sources of finance to meet future infrastructure needs can be diversified, thus harnessing the full potential of public and private finance. Special efforts to find financing solutions to meet the needs of poorer countries and poor people within all countries, will be essential. There are also important opportunities to direct finance towards low-carbon, climate-resilient infrastructure. Raising public finance and strengthening public financial management will be an important part of the solution. Efforts to prepare and structure projects so that they are more attractive to a wider range of investors also hold promise. Development finance institutions in the region can help mitigate the risks that dissuade commercially oriented finance and direct this funding to sustainable infrastructure. Access to concessional funding can help to build requisite capacity and to bridge potential viability gaps.

Through improved governance and innovative approaches to both public and private finance, countries in Asia and the Pacific can build the inclusive and sustainable infrastructure necessary for a prosperous tomorrow.



# CHAPTER 5

## Conclusions



The theme of the 2017 session of the High-level Political Forum on Sustainable Development, “Eradicating poverty and promoting prosperity in a changing world”, holds special importance for the Asia-Pacific region. Here, more than 400 million people still live below the \$1.90 per day poverty line, and more than one in four people are poor in multiple dimensions.

This report, produced under a renewed partnership between ESCAP, the ADB and UNDP to support the national and regional efforts to implement the 2030 Agenda for Sustainable Development.

Keeping an eye on the horizon, this report explores five megatrends that will determine whether all people will be able to thrive and fulfil their expectations for a better life in the future: regional economic cooperation and integration; rural–urban transitions; demographic changes; ICT access and connectivity; and demand for natural resources. Three interlinked entry points—realizing the promise of urban development, strengthening the response to rural poverty in the context of rural–urban transitions, and delivering sustainable infrastructure—provide insights into the challenges that confront the region’s governments and its people. Based on this exploration, the report provides four important insights.

**One, in a changing development context, confronting the systemic challenges that lead to marginalization and exclusion is critical to eradicating poverty and expanding prosperity.**

Without specific attention, the processes of marginalization and exclusion that lead to unequal participation in the interactions of States, markets and civil society, will exacerbate the risks already faced by vulnerable workers, migrants and rural poor households—and particularly women in each of these categories. Social dialogue and action around these issues, and whether enough is being done to meet the needs of all people, forms an important starting point.

**Two, an effective response requires enlarging the scope of our understanding of poverty, beyond income measures.** Eradicating poverty in all forms everywhere requires identifying

and understanding the needs and aspirations of people most in need. Mapping these needs can support the design of more complete interventions and inform appropriately differentiated resource-allocation strategies. Up-to-date disaggregated data on the multiple dimensions of poverty are needed, and indicators should be adapted to the local context. However, both income and multidimensional poverty indexes are insufficient by themselves to describe the range of human needs, experiences and aspirations that are important to a coherent, transformative and universal development agenda. Subjective measures of human well-being provide complementary and important perspectives.

**Three, governments’ capacity to balance their responsibilities to different stakeholders, to share the benefits of development and to establish effective partnerships will determine the impact of their implementation efforts.** The issues discussed in this report and wider debates on the SDGs allude to the evolving relationships between governments, the private sector and the wider public, including the increasingly important roles of the private sector in delivering services that support social and economic progress. These changing relationships will challenge the ability of governments to equitably fulfil their obligations and responsibilities to all stakeholders, including those most at risk and future generations.

In the words of former United Nations Secretary-General, “The 17 Sustainable Development Goals are our shared vision of humanity and a social contract between the world’s leaders and the people.” In Asia and the Pacific, there is need for strong policy signals and enhancement of regulations, institutions and incentives that result in more inclusive prosperity- and sustainability-enhancing urbanization, rural development and infrastructure delivery.

A strengthened social contract provides opportunities for innovative partnerships that enable effective responses. Institutionalized stakeholder engagement, collaboration between governments, non-government organizations, community organizations and private sector partners can help to frame and define solutions to the challenges highlighted in the report, solutions

that better align development outcomes with public interests. Localizing the 2030 Agenda for Sustainable Development at the subnational and local level can facilitate the improvement of the social contract and strengthen governance systems.

**Finally, an effective response that works to achieve the holistic sustainable development agenda in its entirety requires a heightened degree of policy coherence across sectors and between the different tiers of governments.**

This report contributes to a better understanding of the sustainable development goals that are the focus of the 2017 session of the High-level Political Forum on Sustainable Development.<sup>1</sup> It emphasizes that pro-poor rural–urban transitions require closely linked action on SDG 1 on poverty, SDG 2 on hunger and sustainable agriculture and SDG 9 on industry, infrastructure and innovation. Integrated urban and rural development strategies must reflect poverty eradication, food security and gender-equality strategies as well as pro-poor investment strategies for infrastructure development, agricultural development and sustainable natural resources management, particularly in rapidly urbanizing countries.

Urbanization trends are adding new complexities to the many challenges for achieving SDG 3 on health and well-being, as this report points out. Strategies for managing urbanization for inclusive development need to better recognize these and other risks. They also link achievement on SDG 9 with that of SDG 1 and SDG 3 through infrastructure investment decisions that impact economic opportunity, health and well-being.

Highlighting the linkages between the SDGs and infrastructure delivery, the report outlines ways to meet the last-mile infrastructure needs and to maximize the contribution of infrastructure delivery to sustained prosperity in the region. Strategies for advancing progress on SDG 9 can facilitate the flow of goods, people, information and technology between urban and rural areas and strengthen the governance of infrastructure and innovative financing approaches that enable more effective partnership and widen financing opportunities. The better targeting of infrastructure investments will improve access to social infrastructure, including health care. The report also notes the important role that rapidly

increasing access to ICT has in opening up new development opportunities in the region.

Gender equality (SDG 5) cuts across the three entry points discussed in this report—urbanization, rural development and infrastructure. The gaps between the opportunities available to men and those available to women in this region are persistent and significant, and they hinder progress. The gender dimensions of urban and rural poverty and rural–urban migration, along with the importance of gender sensitivity in infrastructure planning and delivery, are stressed in this report and deserve further attention from policymakers.

The report also touches on issues of relevance to conserving and sustainably using the oceans, seas and marine resources (SDG 14) and that link this goal with SDG 1 on poverty. Many of the issues raised that relate to rural livelihoods and the demand for natural resources find parallels in the context of artisanal and coastal fisheries and in the race for ocean resources, including minerals. In addition, the report recognizes the importance of improved ocean connectivity and infrastructure, particularly for the small island developing States. Strategies for achieving all the SDGs must be supported by action for SDG 17 on partnerships to strengthen the means of implementation in terms of trade, finance, technology and capacity-building. The report confirms the importance of ensuring coherence in the international support provided for responding to national needs and priorities, including through regional cooperation efforts.

## Going forward

Because the widening gaps between countries undermine prosperity in all countries and because the development trends that will shape the outlook for the region have both national and regional dimensions, regional cooperation is critical. Enhanced cooperation between countries on trade, migration, decent work and responsible cross-border investments in the agriculture sector as well as with infrastructure financing, in particular for ICT access, transport and renewable energy, is needed to bring the megatrends described in this report in line with sustainable development outcomes.

Regional cooperation should also focus on strengthening national statistical systems and innovations in data collection, especially in the context of an expanded understanding of multidimensional poverty and inclusive prosperity. Countries in the region have diverse and extensive needs for information, including to better manage rural–urban transitions and migration, address the development needs of marginalized groups, and to deliver on the no-one-left-behind imperative of infrastructure investment.

Knowledge partnerships at the regional and subregional levels can support collective learning and strategies highlighted in this report, including good practices on strengthening urban resilience, managing the rural–urban transitions, improving the agro-supply chain governance and handling financing for sustainable infrastructure.

The themes for the forthcoming High-level Political Forum on Sustainable Development, “Transformation towards sustainable and resilient societies” in 2018 and “Empowering people and ensuring inclusiveness and equality” in 2019, will be opportune for the Asia- Pacific region. These discussions will allow for further exploration of critical issues featured in this report.



# Endnotes

## Chapter 1: Poverty and prosperity in Asia and the Pacific

1. This publication is the basis for the official documentation provided on this theme at the Asia-Pacific Forum on Sustainable Development 2017.
2. Sustainable Development Goals: 1 (poverty), 2 (zero hunger) 3 (good health and well-being), 5 (gender equality), 9 (industry, innovation and infrastructure), 14 (life below water) and 17 (partnerships for the goals).
3. This report covers the Asia-Pacific region, as defined by the scope of ESCAP membership for the geographic region. (ADB and UNDP, partners in this publication, have differing regional compositions). See [www.unescap.org/about/member-states](http://www.unescap.org/about/member-states).
4. ESCAP, 2015a.
5. ADB, 2014.
6. A/RES/70/1.
7. A/RES/70/1.
8. World Bank, 2016a.
9. Based on the Index of Human Capital (economic returns to education and years of schooling), analysis in Shashoua, 2015.
10. ESCAP, based on World Bank data, PovcalNet, 2016. Due to changes in the methodology applied for the 2013 household survey in China, on which poverty data for that year are based, the comparability with previous years is subject to caution. For more information, please see World Bank, 2016.
11. Shashoua, 2015.
12. ESCAP Statistical Database, <http://stats.oecd.org/Index.aspx?DataSetCode=PAG> (accessed 21 January 2016/2017).
13. Alkire, and Robles, 2015.
14. *ibid.*
15. At least one third of the indicators should cross the thresholds identified (Alkire, and Robles, 2015).
16. Alkire, and Robles, 2016.
17. Mahadevan, 2016; Ayala, and others, 2009.
18. According to MPI assessment those who live in destitute conditions experience a combination of severe deprivations simultaneously (Alkire, and Robles, 2015.).
19. ADB, 2012.
20. According to ESCAP calculations of the Palma Index, which measures the ratio of the income share of the top 10 per cent to the bottom 40 per cent of a country's population, in eight countries in the region out of the 12 countries with available data, income inequalities had increased (ESCAP, 2015, p. 25).
21. See <http://unstats.un.org/sdgs/indicators/database> (accessed 15 November 2016). The countries for which data exist are: Armenia, Australia, Bangladesh, Bhutan, China, Georgia, Indonesia, India, Islamic Republic of Iran, Kazakhstan, Kyrgyzstan, Cambodia, the Lao People's Democratic Republic, Sri Lanka, Nepal, Pakistan, the Philippines, Russian Federation, Thailand, Turkey and Viet Nam. The total population with data available is around 3.5 billion, out of 4.3 billion, which leaves about one billion people not measured.
22. *ibid.* See <http://unstats.un.org/sdgs/indicators/database> (accessed 15 November 2016).

23. ESCAP, based on World Bank, World Development Indicators, in ESCAP, 2016.
24. ESCAP, 2015b.
25. Bourguignon, and others, 2007.
26. ESCAP, 2015b.
27. As defined by WHO, covering Bangladesh, Timor-Leste (East Timor), India, Myanmar, Sri Lanka and Thailand (WHO, 2013).
28. United Nations Minorities Declaration in its article 1 refers to minorities as based on national or ethnic, cultural, religious and linguistic identity, and provides that States should protect their existence. There is no internationally agreed definition as to which groups constitute minorities. The term minority as used in the United Nations human rights system usually refers to national, ethnic, religious and linguistic minorities.
29. Dhir, 2015.
30. Disability is an umbrella term for impairments, activity limitations and participation restrictions. It also denotes the negative aspects of the interaction between an individual (with a health condition, for example) and that individual's contextual factors (environmental and personal factors) (World Bank, 2011).
31. When poverty status is measured using non-health personal consumption expenditure as welfare aggregate and the \$1.25 (PPP) a day international poverty line, disability prevalence is significantly higher among the poor strata than the non-poor strata of a population (World Bank, 2011).
32. WHO, 2011.
33. In 11 of the 15 countries under study, disability prevalence is higher in rural than in urban areas. Countries covered: Burkina Faso, Ghana, Kenya, Malawi, Mauritius, Zambia, and Zimbabwe in Africa; Bangladesh, Lao People's Democratic Republic, Pakistan, and the Philippines in Asia; and Brazil, Dominican Republic, Mexico, and Paraguay in Latin America and the Caribbean (World Bank, 2011).
34. ESCAP, 2016c.
35. ESCAP, 2015b.
36. ILO, 2014. It refers to ILO subregional compositions. See [http://ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_233953.pdf](http://ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_233953.pdf).
37. Informal employment most often means poor employment conditions, associated with increasing poverty. Characteristic of informal employment include; lack of employment protection, compulsory overtime, lay-offs without notice, unsafe working conditions and the absence of social benefits (ILO, n.d.).
38. ILO, n.d.
39. A/71/385.
40. ESCAP, 2016a.
41. UNDESA, 2015.
42. OECD Statistical Database, <http://stats.oecd.org/Index.aspx?DataSetCode=PAG> (accessed 21 January 2017).
43. World Bank, 2016b.
44. *ibid.*
45. ESCAP, and IOM, 2015.
46. *ibid.*
47. *ibid.*
48. *ibid.*
49. *ibid.*
50. Para 7, A/RES/70/1.
51. See <http://hdr.undp.org/en/statistics/understanding/indices>. See <http://hdr.undp.org/en/statistics/understanding/indices> (accessed 21 January 2017).

52. Relative to other countries (UNDP, 2016).
53. UNDP, 2016.
54. UN-Habitat, 2015.
55. Gallup-Healthways Well-being Index, [www.well-beingindex.com/](http://www.well-beingindex.com/); Helliwell, Layard, and Sachs, 2016.
56. Gallup-Healthways Well-being Index, [www.well-beingindex.com/](http://www.well-beingindex.com/).
57. Helliwell, Layard, and Sachs, 2016.
58. Resilience and well-being are strongly linked and can be addressed at the individual, community and national levels (The Kings Fund, 2013; Commonwealth of Australia, 2005).
59. WHO, n.d.
60. Shashoua, 2015.
61. ESCAP, 2015a.
62. *ibid.*
63. Asia-Pacific Trade and Investment Agreements Database. [www.http://www.unescap.org/resources/asia-pacific-trade-and-investment-agreement-database-aptiad](http://www.unescap.org/resources/asia-pacific-trade-and-investment-agreement-database-aptiad) (accessed 21 January 2017).
64. ESCAP, 2015a.
65. A/71/385.
66. Timmer, 2014.
67. UNDESA, 2015a.
68. *ibid.*
69. Shepherd, and others, 2014.
70. Briones, and Felipe, 2013.
71. Timmer, 2014.
72. Timmer, and Akkus, 2008, in Timmer, 2014.
73. UNDP, 2016.
74. ESCAP, 2016b.
75. *ibid.*
76. World Bank, 1994; HelpAge, 2003, in Barrientos, 2006.
77. ESCAP, 2015b.
78. GSMA, 2016.
79. *ibid.*
80. Global Alliance for ICT and Development, 2009.
81. GSMA, 2016.
82. ESCAP, 2016d.
83. ESCAP, 2012.
84. ESCAP Statistical Database, <http://stats.oecd.org/Index.aspx?DataSetCode=PAG> (accessed 21 January 2017).
85. ESCAP, 2015c.
86. Rochman, and others, 2015.
87. World Economic Forum, 2011.
88. O'Brien, and others, 2009.
89. United Nations, 2016b.



90. A/71/385.
91. Timmer, 2014.

## Chapter 2: Managing urbanization for inclusive development

1. ESCAP Statistical Database, <http://stats.oecd.org/Index.aspx?DataSetCode=PAG> (accessed 21 January 2016).
2. Hildebrand, and others, 2013.
3. UN-Habitat, 2016.
4. Valencia, 2016; Philippines Statistics Authority, 2016.
5. World Bank, 2012.
6. UN-Habitat, 2016. Urban areas attract skilled workers as well as more productive entrepreneurs and firms. Thus, elasticity of income per capita with respect to population is higher in urban areas, estimated at between 3 and 8 per cent. Small cities serve as links between larger urban markets and rural areas, contributing to the development of rural areas. For details see, UN-Habitat, 2015, p. 2.
7. UN-Habitat, and UNESCAP, 2015.
8. Wang, and Mesman, 2015. The paper discussed three types of functioning of children. Emotional functioning means children's feeling about themselves; social functioning refers to children's interactions with peers and also includes positive and negative outcomes; school functioning refers generally to school grade and sense of belonging to school.
9. UNDP, 2016a.
10. UNDESA, 2012.
11. Gangopadhyay, 2016.
12. Life Ledger, 22 June 2010, [www.elderissues.com/library/index.cfm?fuseaction=article&artid=122&CFID=211922&CFTOKEN=6027713&x=5876861](http://www.elderissues.com/library/index.cfm?fuseaction=article&artid=122&CFID=211922&CFTOKEN=6027713&x=5876861).
13. UNDESA, 2015
14. Brunner, 2013.
15. Robert, 2016.
16. See Global Parliament of Mayors, The Hague, [www.globalparliamentofmayors.org/release-2](http://www.globalparliamentofmayors.org/release-2).
17. See Global Covenant of Mayors for Climate and Energy. This initiative will create the largest global coalition of cities committed to climate leadership, building on the commitments of more than 7,100 cities from 119 countries and 6 continents, representing more than 600 million inhabitants, more than 8 per cent of the world's population, [www.compactofmayors.org/globalcovenantofmayors/](http://www.compactofmayors.org/globalcovenantofmayors/); [www.c40.org/blog\\_posts/eu-covenant-of-mayors-and-compact-of-mayors-launch-largest-global-coalition-of-cities-committed-to-fighting-climate-change](http://www.c40.org/blog_posts/eu-covenant-of-mayors-and-compact-of-mayors-launch-largest-global-coalition-of-cities-committed-to-fighting-climate-change).
18. See [www.100resilientcities.org/#/-\\_/](http://www.100resilientcities.org/#/-_/).
19. See C40 Cities, [www.c40.org/](http://www.c40.org/).
20. See CityNet, <http://citynet-ap.org/category/about/>.
21. UCLG Asia-Pacific, n.d.
22. See [www.uclg.org/en/media/events/2nd-asean-mayors-forum-amf](http://www.uclg.org/en/media/events/2nd-asean-mayors-forum-amf).
23. Viswanath, 2016.
24. See [www.kotakita.org/index.html](http://www.kotakita.org/index.html).
25. UNDP, 2015.

26. Hernando, and others, 2013.
27. Paliwal, 2015.
28. UNDP, 2017a.
29. Chan, and Anderson, 2016; UNDP, 2013.
30. Yeh, and Huang, 2011.
31. Satterthwaite, McGranahan, and Tacoli, 2010.
32. UN-Habitat, 2016.
33. UNDESA, 2010; Bhatta, 2010.
34. As a measure of land-use efficiency, this indicator benchmarks and monitors the relationship between land consumption and population growth. It informs and enables decision-makers to track and manage urban growth at multiple scales and enhances their ability to promote land use efficiency. See United Nations Statistical Division, n.d.
35. United Nations, 2016.
36. ESCAP, 2015.
37. Yep, 2015.
38. Government of Singapore, n.d.
39. ADB, 2016.
40. World Bank, and IMF, 2015.
41. Ferré, and others, 2012. Data on income poverty come from nationwide sample surveys of household incomes and consumption. The samples are representative for the population as a whole and sometimes for large cities, but not for smaller cities.
42. Hoang, and others, 2013.
43. UNDP, 2013.
44. UNDP, 2017b.
45. UN-Habitat, 2016.
46. World Bank Group, 2016.
47. Khrishna, and others, 2014.
48. UNDP, 2006.
49. Lucci, Bhatkal, and Khan, 2016.
50. The rise of middle classes is not an all-inclusive process. Those defined as “middle class” in the region’s cities range widely in income from \$2 to \$20 a day.
51. Mahbub ul Haq Development Centre, 2014.
52. UNDP, 2017a.
53. World Economic Forum, 2015.
54. Creel, 2003.
55. World Bank, 2016; World Bank Group, 2016.
56. World Bank Group, 2016.
57. United Nations, 2016.
58. Vidal, 2016.
59. WHO, 2016.
60. ADB, n.d.

61. UNEP, n. d.
62. WHO, 2014.
63. Garg, 2011.
64. WHO, 2015. In Kuwait, diabetes prevalence has been as high as 23 per cent; even in a low-income country, such as Burundi, it reaches 4.5 per cent.
65. World Economic Forum, 2015.
66. WHO, 2016.
67. UNDP, 2016a.
68. World Cancer Research Fund International, n.d.
69. World Economic Forum, 2015.
70. *ibid.*
71. Mahbub ul Haq Development Centre, 2014.
72. UN-Habitat, 2016.
73. UNDP, 2013.
74. World Bank, 2016; World Bank Group, 2016.
75. UN-Habitat, 2016; ESCAP Statistical Database, <http://stats.oecd.org/Index.aspx?DataSetCode=PAG> (accessed 21 January 2017).
76. IIED, 2013, p. 2.
77. SDSN, and GIZ, 2016.
78. Ho Chi Minh City has an annual GDP growth rate of around 9 per cent (9.9 per cent for 2015); a per capita GDP of approximately \$5,500 in 2015 (equivalent to upper MIC status). The city is well resourced and contributes approximately one third of Viet Nam's total state revenues. The HDI value of 0.820 in 2012 places the city within the very high human development category and ranks number one in the country (UNDP, and Viet Nam Academic Social Sciences, 2016).
79. Government of Viet Nam, 2016.
80. Supported by a partnership with UNDP and the International Council for Local Environmental Initiatives.
81. Salzer, and Camarasa, 2015.
82. Sandhu and Kamal, 2015.
83. *ibid.*
84. Gouldson and others, 2014.
85. UNDP, 2016b.
86. UNDP, 2017a.
87. Asfar, 2005, p. 10.
88. For example, see IOM, 2009, [http://publications.iom.int/system/files/pdf/gender\\_and\\_labour\\_migration\\_asia.pdf](http://publications.iom.int/system/files/pdf/gender_and_labour_migration_asia.pdf)). Domestic migration in China, [http://publications.iom.int/system/files/pdf/gender\\_and\\_labour\\_migration\\_asia.pdf](http://publications.iom.int/system/files/pdf/gender_and_labour_migration_asia.pdf)), and domestic migration in China.

## Chapter 3: Strengthening responses to rural poverty in the context of rural–urban transitions

1. A/RES/70/1.
2. Thirtle, Lin, and Piesse, 2003.
3. Timmer, 2014.
4. ESCAP Statistical database, <http://data.unescap.org/escap/stat/> (accessed 17 March 2017).
5. Estimate based on MPI data for 25 ESCAP countries in 2016. See Alkire, and others, 2014.
6. ESCAP, 2016a.
7. Timmer, 2004.
8. FAO, 2016.
9. IFAD, n.d.
10. Timmer, 2014.
11. Countries referred to are Bangladesh, Bhutan, Cambodia, China, Fiji, India, Indonesia, the Lao People's Democratic Republic, Malaysia, Federated States of Micronesia, Myanmar, Nepal, Pakistan, Palau, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Vanuatu and Viet Nam.
12. Hosonuma, and others, 2012.
13. *ibid.*
14. *ibid.*
15. Liu, 2014.
16. Based on ESCAP calculation using FAO statistics on arable land in 2014.
17. GRAIN, 2015.
18. Human Rights Watch, 2016; CSR Asia, 2014.
19. Liu, 2014.
20. GRAIN, 2015.
21. Niasse, 2011.
22. Muger, and Karfakis, 2013.
23. FAO, 2011b.
24. Niasse, 2011.
25. Based on the World Bank category.
26. *ibid.*
27. World Bank Open Data, <http://data.worldbank.org> (accessed 21 January 2017).
28. Fan, and Chan-Kang, 2005.
29. Wik, and others, 2008.
30. Sylvester, 2015.
31. FAO, 2011a.
32. Gangopadhyay, 2016.
33. Yang, 2013.
34. The Japan Policy Council, 2014.

35. Measured by completion of primary school.
36. Measured by the mortality of a child younger than 5 years in the household.
37. Sumner 2013.
38. ESCAP, 2015.
39. Asia Pacific Energy Portal. Calculated by ESCAP and based on data from Sustainable Energy for All initiative database (accessed 15 January 2017).
40. Hussain, 2011.
41. Sovacool, 2012.
42. Timmer, 2014.
43. Angelsen, and others, 2014.
44. *ibid.*
45. Jagger, and others, 2014.
46. Micro Energy International, n.d.
47. Micro Energy International, n.d. ESCAP, 2016b; Yadoo, 2012.
48. BORDA, n.d.
49. Meinzen-Dick, and Ringler, 2008.
50. Center for People and Forests, 2013.
51. Springate-Baginski and Blaikie, 2007.
52. *ibid.*
53. Birchall, 2004.
54. *ibid.*; FAO, 1996.
55. Birchall, 2004; Carloni, and Crowley, 2005; FAO, 1996.
56. FAO, and others, 2007.
57. *ibid.*
58. World Bank, 2008.
59. Alston, and others, 2000.
60. ESCAP, 2016a.
61. Beintema, and others, 2012.
62. See <http://unctad.org/en/Pages/DIAE/G-20/PRAI.aspx>.

Principle 1: Existing rights to land and associated natural resources are recognized and respected. Principle 2: Investments do not jeopardize food security but rather strengthen it.

Principle 3: Processes relating to investment in agriculture are transparent, monitored and ensure accountability by all stakeholders, within a proper business, legal and regulatory environment.

Principle 4: All those materially affected are consulted, and agreements from consultations are recorded and enforced.

Principle 5: Investors ensure that projects respect the rule of law, reflect industry best practice, are viable economically and result in durable shared value.

Principle 6: Investments generate desirable social and distributional impacts and do not increase vulnerability

Principle 7: Environmental impacts of a project are quantified and measures taken to encourage sustainable resource use, while minimizing the risk and magnitude of negative impacts and mitigating them.

63. Suich, Howe, and Mace, 2015.
64. Meijaard, and others, 2011.
65. Winrock International, 2011.

## Chapter 4: Infrastructure development for tomorrow

1. This approach is informed by the discussion in Beeferman, and Wain, 2016. Physical structures, such as school buildings and hospitals, are considered infrastructure in some definitions. These are not the central focus of the analysis in this chapter, although links are highlighted in the discussion. See [www.law.harvard.edu/programs/lwp/pensions/publications/INFRASTRUCTURE % 20DEFINING % 20MATTERS % 20FINAL.pdf](http://www.law.harvard.edu/programs/lwp/pensions/publications/INFRASTRUCTURE%20DEFINING%20MATTERS%20FINAL.pdf).
2. For example, the UNDP Multidimensional Poverty Index measures standard of living in terms of access infrastructure such as electricity, water and toilets. See <http://hdr.undp.org/en/content/multidimensional-poverty-index-mpi>.
3. E/2016/70.
4. The ESCAP Asia–Pacific Countries with Special Needs Development Report 2017 (forthcoming) will explore infrastructure in these countries in more detail.
5. Asia-Pacific Energy Portal. Calculated by ESCAP and based on data from Sustainable Energy for All initiative database (accessed 15 January 2017).
6. ESCAP, 2015 and UNICEF and WHO, 2015.
7. ADB, 2012.
8. These figures are derived for the 24 developing member countries of ADB. The estimates on infrastructure needs presented in this section are based on ADB, 2017.
9. These estimates are derived in part from available data on current budget expenditure on infrastructure, and projected GDP growth.
10. The modelling exercise does not reflect an optimal scenario for meeting infrastructure priorities. Future growth in China in particular would substantially affect these estimates.
11. Estimates based on electricity generation costs by International Energy Agency, Nuclear Energy Agency, and the OECD, 2015.
12. Estimate based on price assumptions from ADB, 2017; and demand computation from WHO/UNICEF. Joint Monitoring Program (JMP) for Water Supply and Sanitation (for access rate) and United Nations, 2015 (Population 2030, for population projections).
13. Bhattacharya, Oppenheim, and Stern, 2015.
14. Nakhoda, and Watson, 2016.
15. UNEP, and BNEF. 2016.
16. ADB, 2016,
17. Allen, and others, 2015.
18. ADB, 2015.
19. International Energy Agency, 2016.
20. GSMA, 2016.
21. Allen, and others, 2015.
22. International Telecommunications Union, World Telecommunication/ICT Indicators database, <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx> (accessed 14 December 2016). Penetration rates reached 94 per 100 inhabitants. Research from the mobile technology industry also suggests that mobile technology created 15 million jobs in 2015 and 5.4 per cent of GDP in Asia and the Pacific.
23. UNDP, 2015.
24. ADB, 2015.

25. Heller, 2010.
26. ADB, 2015.
27. *ibid.*
28. ASEAN, 2011.
29. ASEAN, 2016.
30. ADB, and ADBI, 2009. Positive externalities (benefits such as time and cost savings, environmental protection, and trade facilitation) and negative externalities (costs such as environmental pollution, trafficking, and the spread of communicable diseases) arise when the consequences of one or more countries' actions spill over national borders. If the concerned countries do not make cooperative arrangements, too few positive externalities and too many negative ones will arise.
31. In this context, governance refers to the institutions, policies, regulations, and processes that shape how infrastructure needs are met.
32. Bielenberg, and others, 2016.
33. Marcelo, and others, 2015.
34. Chairman's Statement--Global Infrastructure Forum 2016, 16 April 2016, [www.worldbank.org/en/topic/publicprivatepartnerships/brief/chairmans-statement-global-infrastructure-forum-2016](http://www.worldbank.org/en/topic/publicprivatepartnerships/brief/chairmans-statement-global-infrastructure-forum-2016).
35. McKinsey Global Institute, 2013.
36. ADB, 2017.
37. ADB, 2015.
38. Carrasco, and Rao, 2015. A white paper on the road sector in India reported that, on average, a PPP project in the road sector averaged a cost escalation of around 36 per cent. See [www.crisil.com/pdf/infra-advisory/Road%20Sector%20White%20Paper.pdf](http://www.crisil.com/pdf/infra-advisory/Road%20Sector%20White%20Paper.pdf).

## Chapter 5: Conclusions

1. For 2017 the goals to be reviewed in-depth are: Goal 1. End poverty in all its forms everywhere; Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture; Goal 3. Ensure healthy lives and promote well-being for all at all ages; Goal 5. Achieve gender equality and empower all women and girls; Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation; Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development and; Goal 17. Partnership for the goals (means of implementation).



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