Creating opportunities for rural youth

2019 Rural Development Report

IFAD
Investing in rural people

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Acronyms

ABB	Al Barid Bank
AFS	agrifood system
APR	Asia and the Pacific
ASAP	Adaptation for Smallholder Agriculture Programme
ASEAN	Association of Southeast Asian Nations
CA	Central America
CARICOM	Caribbean Community
CB	Caribbean
CBNRMP	Community-Based Natural Resource Management Programme
CCT	conditional cash transfer
CDA	community development association
CEN	Central and Eastern Europe and newly independent States
CONAJIS	National Council of Indigenous Youth of El Salvador
CORY	Creating Opportunities for Rural Youth
DFID	Department for Overseas Development
DHS	Demographic and Health Surveys
DO	diverse and remunerative opportunities
DPO	United Nations Department of Peace Operations
EA	East Asia
ECLAC	Economic Commission for Latin America and the Caribbean
ELA	Empowerment and Livelihood for Adolescents
ESA	East and Southern Africa
EVI	Enhanced Vegetation Index
FAO	Food and Agriculture Organization of the United Nations
FTE	full-time equivalent
GALS	Gender Action Learning System
GDP	gross domestic product
GNI	gross national income
GYAP	Global Youth Advisory Panel
HALM	high agricultural potential but limited market access
HMM	household methodology
ICT	information and communications technology
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
LAC	Latin America and the Caribbean
MERCOSUR	Southern Common Market
MFI	microfinance institution
MX	mixed challenges and opportunities
NEET	not in employment, education or training
NEN	Near East, North Africa, Europe and Central Asia
NENA	Near East and North Africa
NYSC	National Youth Services Council

OECD	Organisation for Economic Co-operation and Development
PAHO	Pan American Health Organization
PPP	purchasing power parity
REAF	Specialized Meeting on Family Farming
ROS	rural opportunity space
RT	rural transformation
RYEEP	Rural Youth Economic Empowerment Programme
SA	South Asia
SAARC	South Asian Association for Regional Cooperation
SAM	South America
SC	severe challenges
SEA	South-East Asia and Pacific
SEEP	Skills Enhancement for Employment Project
SMLA	strong market access but limited agricultural potential
SSA	sub-Saharan Africa
ST	structural transformation
TAG	Tawfir al Ghad – "Savings for Tomorrow"
TREE	Rural Economic Empowerment
UNDESA	United Nations Department for Economic and Social Affairs
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WCA	West and Central Africa
WHO	World Health Organization
YSG	youth savings groups

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Foreword

Nearly 1 billion of the world's 1.2 billion youth aged 15-24 reside in developing countries. Their numbers are growing far more rapidly in lower income countries than in higher income countries, particularly in rural areas. In fact, rural youth make up around half of all youth in developing countries.

The growing youth population has enormous potential. Investing in young people can yield boundless results in terms of poverty reduction, employment generation and food and nutrition security. After all, they are the farmers, workers and entrepreneurs of tomorrow. Their energy and dynamism is needed to transform food systems and rural areas. They have the potential to help feed the world and thus solve one of the biggest global challenges. These young women and men are key to achieving the Sustainable Development Goals by 2030 and indeed, to our planet's future.

But there are obstacles and challenges in their way. Young people are approximately three times more likely than adults to be unemployed. About 150 million young workers are among the working poor; and every year 14 million young Africans alone are expected to enter the job market – and the majority live in remote communities.

Constraints on access to land, natural resources, finance, technology, knowledge, information and education also make it difficult for young people to seize opportunities for bettering their lives and contributing to the rural economy. At the same time, the rapid pace of change today is altering the landscape and challenging traditional paths to development. The question is, how can rural youth prepare to prosper in this new world of intelligent automation and digital giants, globalized communication of information, aspiration and values, and a changing climate and shifting dietary habits – all of which have major implications for rural life and economies.

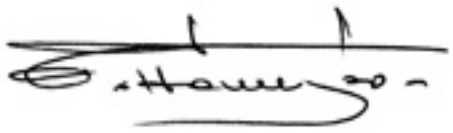
This report is based on substantive evidence and attempts to provide the kind of analysis that can inform policies, programmes and investments to promote a rural transformation that is inclusive of youth. It examines who rural youth are, where they live, and the multiple constraints they face in their journey from dependence to independence.

A distinguishing feature of this report is that it examines rural development in the context of the transformation of rural areas and the wider economy. Opportunities for young women and men begin with a transformation towards a dynamic rural economy. These opportunities depend on the national, rural and household settings in which young people reside. Only by understanding these multiple layers can governments and decision makers design effective policies and investments to enable young rural women and men to become productive and connected individuals who are in charge of their own future.

However, creating broad opportunities in these settings does not guarantee that rural youth will be able to seize them, because young people, and especially young women, face particular constraints. An effective approach to rural youth policy and investment is then one that strikes the "right balance" between creating broader rural opportunities and fostering youth-centred investments (in the agrifood sector, digital technologies and climate change adaptation) that can specifically generate employment opportunities for young people.

IFAD is sharpening its focus on rural youth and in this funding period, 2019-2021, targeting a dramatic increase in the number of young people trained in income-generating activities or business management. In our Rural Youth Action Plan we set a target for 50 per cent of our loan portfolio to be youth-sensitive so that youth dimensions will be carefully analysed and assessed when designing projects. We recognize that access to new and traditional knowledge and innovations, markets, and land, when complemented by skills and training, can enable youth to drive inclusive transformation of rural areas and long-term food security and poverty eradication.

Investing in young people is the bottom line. If we neglect them now, as their parents were in many cases neglected, we will have to face the same issues in the future that we have today. We must ensure that they gain the skills, resources and confidence they need to run profitable farms and innovative businesses and become the community leaders of tomorrow.



GILBERT F. HOUNGBO
President of IFAD

Overview

Enabling young rural women and men to become productive, connected and in charge of their own future requires thinking differently about the diverse settings in which they seek to thrive, the multiple constraints they face and the dynamics of change in the world that create challenges and opportunities for them. Only by understanding the multiple layers that shape youth livelihoods, how they differ across countries and opportunity spaces, and how they are evolving can governments and decision makers design and implement more effective policies and investments.

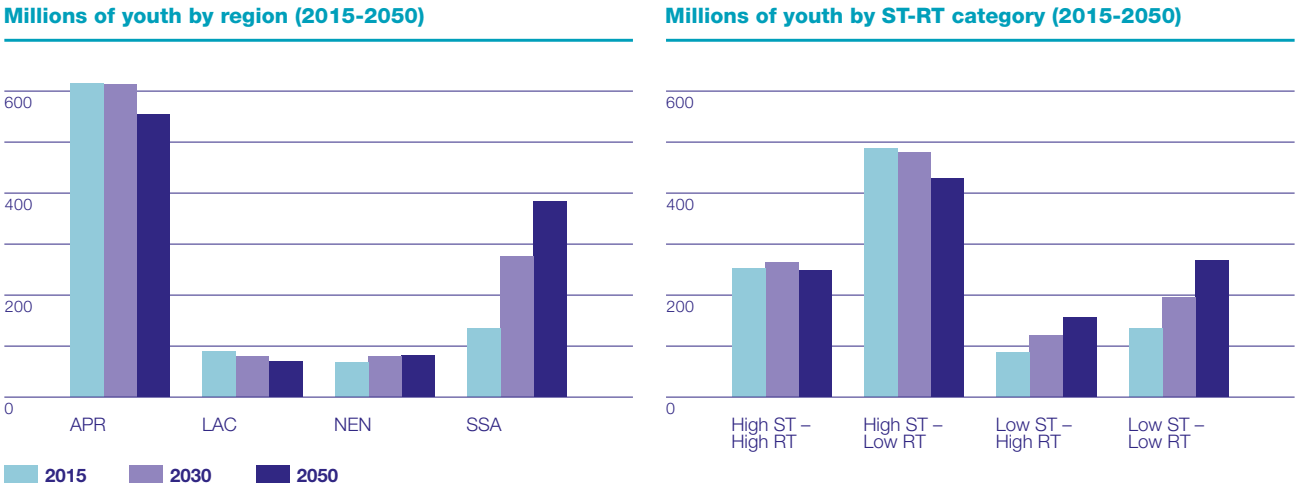
Viewing the situation from this perspective leads to two main conclusions. First, devising a rural youth policy and investment agenda will entail simultaneously tackling larger issues of rural development at the same time. When economic and social opportunities are limited, targeted support for rural youth will generally be ineffective. Second, policies and investments that promote a broader rural transformation process do not automatically translate into better opportunities for young people. Young rural women and men face particular kinds of constraints, and if they are to be able to take advantage of the opportunities that are opened up for them, those constraints must be addressed by means of targeted action. In recognition of this situation, the Sustainable Development Goals include specific indicators designed to capture progress in this area.[i] As indicated in the *Rural Development Report 2016*, rural transformation initiatives must be specifically designed to include rural youth.

Why young people are important for rural development

Youth is a distinct human developmental stage, a time of transition from dependence to independence and a time marked by critical decisions that affect the future of the individual and society. A successful transition results in a well-adjusted adult who is able to prosper and to contribute to the economy and society. This generates long-term pay-offs for the individual, his or her family and the broader social and economic groups of which the individual is a part. An unsuccessful transition may result in lifelong poverty and social maladaptation, generating long-term negative outcomes for the individual, his or her family and society at large. Thus, since the stakes are so high, this period of life is universally a focus of intense concern.

Concern about youth has deepened even further across developing countries over the past decade for several reasons.[ii] First, there is the sheer number of youth and this population segment's rate of growth. Nearly 1 billion of the 1.2 billion people in the world between the ages of 15 and 24 reside in developing countries, and their numbers are growing far more rapidly than in higher-income countries (UNDESA 2017).[iii] Moreover, the growth of this population group is concentrated in the world's poorest developing countries, especially those in Africa (see **FIGURE A**), and is a direct result of the slow pace

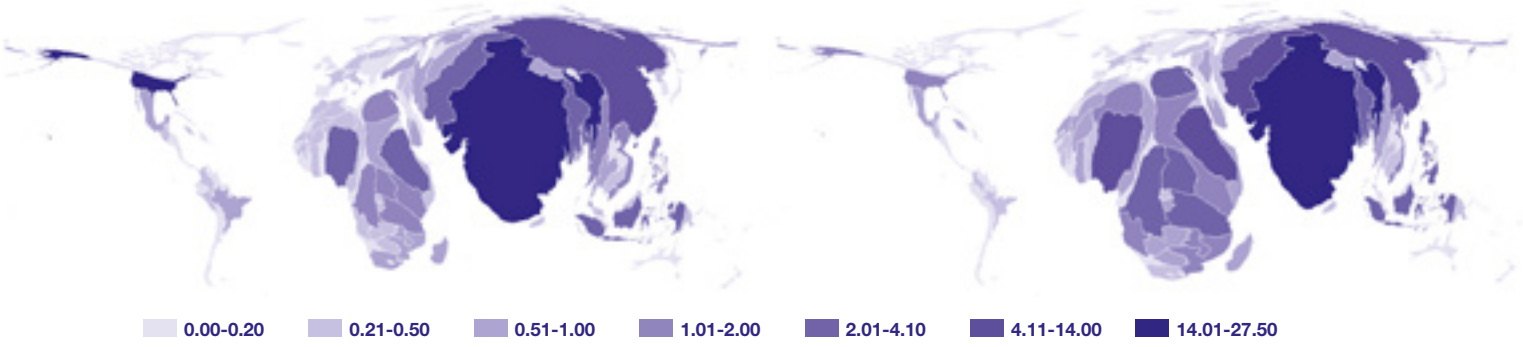
FIGURE A The number of young people is growing rapidly in sub-Saharan Africa and in countries with low levels of structural transformation



Note: ST: structural transformation; RT: rural transformation; APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa. The dataset covers 85 low- and middle-income countries (based on the World Bank definitions of these categories and data for 2018).
Source: Authors' calculations, based on United Nations Department of Economic and Social Affairs (2017a).

of their demographic transition to lower birth rates in the wake of sharp declines in death rates. Consequently, these countries' population pyramids have a massive base of young people, and this is even more so in rural areas than in urban areas. As a result, the absolute number of young people in Africa is projected to continue to grow far faster than in the rest of the world, driving a huge increase in the continent's share of the world's rural youth over the next 30 years (see **MAP A**) (Stecklov and Menashe-Oren, 2018). There are 494 million youth living in rural areas of developing countries as defined by administrative delineations of rural and urban (UNDESA 2014 and 2017). This number rises to 778 million if we consider all youth except those living in densely populated

MAP A A disproportionate share of rural youth today are in Asia, but Africa's share is projected to rise rapidly



Note: This map is an equal-area cartogram (also known as a density-equalizing map) of the share of global rural youth, by country. The cartogram resizes each country according to its share of the global rural youth population. The seven different colours shown on the map differentiate the various categories of countries according to their shares. The projected increase in Africa's share of rural youth by 2050 is represented by the larger size of that continent relative to the others.
Source: Authors' calculations using the Gastner-Newman method (2004) based on spatially disaggregated population data for 2015 and projections for 2050 from the United Nations Department of Economic and Social Affairs. The rural youth projections are created by applying the projected share of the rural population to the total projected youth population. This is based on the assumption that age structures in rural and urban areas will remain the same. Potential deviations from this assumption are not expected to have a noticeable effect on overall trends in rural youth populations across regions.

urban areas. Today, 65 per cent of the world's rural youth live in Asia and the Pacific, and 20 per cent live in Africa (see the left panel in **MAP A**), but Africa's share is projected to rise to 37 per cent by 2050, while Asia and the Pacific's will fall to 50 per cent.

The second driver of concern about developing-country youth is the transformative technological change of unprecedented speed that is now being generated by the advancing wave of digital technology. This dynamic is driving rapid social and economic change and penetrating every aspect of people's lives. While this digital revolution is opening up new, undreamed-of opportunities, it is also closing down more traditional paths of rural development (World Bank, 2019) and creating a great deal of uncertainty among decision makers about how to respond to these changes.

This digital revolution, combined with strong economic growth in developing countries over the past 20 years, is one of the factors behind the third main source of concern about developing-country youth: young people's rapidly rising aspirations in terms of economic advancement and having a say in their societies' decisions. The defining characteristic of the digital revolution is a massive decline in the cost of information and the consequent massive increase in access to the information that is embedded in ideas, images, values, and goods and services from around the world. Despite considerable economic progress, the rising aspirations of young people may be outpacing the expansion of their economic and social opportunities (World Bank, 2019). These rising aspirations, and the potentially negative social and political outcomes of a failure to meet those aspirations, underscore the need for action on the part of policymakers.

BOX 1 Defining youth

Many people reject the notion that youth can be defined by a specific age range, but age is nonetheless the most practical way to define this group. The United Nations defines this group as persons between 15 and 24 years of age. While recognizing the complexity of the concept of youth and acknowledging the fact that formal age-based definitions of youth vary across regions, this report uses the United Nations parameter when dealing with statistical data in order to ensure comparability. See box 1.1 in chapter 1 for further details.

This report focuses on rural youth, who make up around half of the total youth population in developing countries. Three additional facts should be borne in mind in this connection. First, in all developing countries, young people make up a larger share of the rural population than of the urban population, and youth issues are therefore especially relevant in rural areas. Second, although the world's two biggest youth populations are in China, an upper-middle-income country, and India, a lower-middle-income country, the majority of countries with large rural youth populations are low-income nations with high poverty rates (see figure 1.1 in chapter 1). Most of these countries are in sub-Saharan Africa and Asia, where the large percentage of the population composed of young people, the large number of young people in absolute terms and widespread poverty pose formidable challenges for countries that want to invest in a better future for their citizens at a time of great transition.

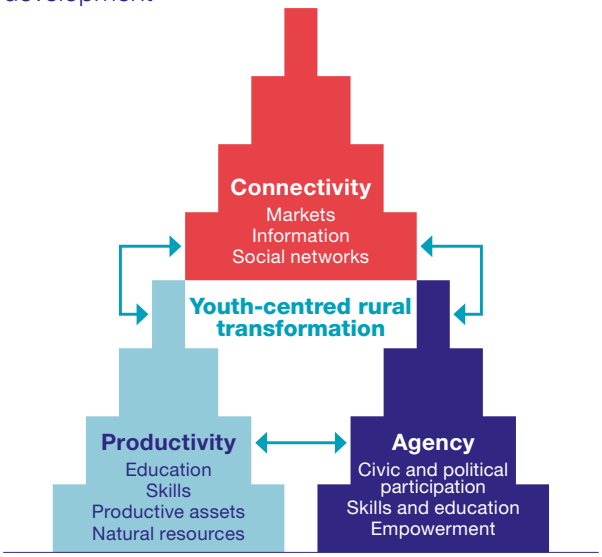
Three foundations for rural youth development: productivity, connectivity and agency

Youth-inclusive policies and investments for encouraging rural transformation should be based on the three foundations of rural development: *productivity*, *connectivity* and *agency*. These are the cornerstones of well-being for all individuals and societies. The fact that young people are transitioning into a life that should incorporate these foundational

elements – that they are striving to become productive and connected individuals who are in charge of their own futures – makes these elements an essential consideration when thinking about rural youth development.

Each of these core elements needs to be taken into consideration because each one reinforces the others. Focusing on just one of them will be less effective than focusing on all three (see **FIGURE B**). Social, political, economic, educational and psychological connections allow youth to accumulate resources and deploy them in ways that increase their productivity and incomes while also generating value for society. Creating these connections requires agency, having a measure of control over one's decisions and trajectory in life. Connectivity and agency will make a greater contribution to productivity in an enabling environment that supports and rewards youth initiative through effective policies and institutions and that provides young people with health care, education and infrastructure. An effective rural youth policy and investment agenda includes a broad set of the actions that are necessary in order to promote the development of a population of rural youth who are productive, connected and in charge of their futures.

FIGURE B Foundations of rural youth development



Source: Authors.

Productive

The productivity of rural young people is central to their well-being and to the broader development and prosperity of society. "A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker", as Paul Krugman noted in *The Age of Diminished Expectations* (Krugman, 1994). Productivity depends on the quality of the environment that people work in and on the level of people's skills and learning. Learning is more than schooling, as discussed in the *World Development Report 2018: Learning to Realize Education's Promise*. Learning can be improved if governments make it a priority and take heed of the evidence, which indicates that all stakeholders in the educational ecosystem need to be aligned in order for the system as a whole to work for learners (World Bank, 2018). Supporting improved learning is particularly important in the case of rural youth, especially young rural women, who tend to lag behind the rest of the population. Better learning outcomes among rural youth embedded in a supportive environment will play a direct role in boosting their productivity and will also improve their sense of agency, thereby feeding into a virtuous spiral of improving welfare (see, for example, Brady et al., 2007).

Connected

Connectivity – to people, markets, services, ideas and information – creates opportunities for rural youth to become more fully integrated with their transforming economies, which increases their productivity. For instance, rural areas that are better connected to markets through information flows and good transport infrastructure offer more opportunities for

commercializing products and services. There is a great deal of potential for shortening the distances between rural areas and their markets by increasing both physical links (infrastructure) and digital connectivity (mobile technology) in many developing countries. In sub-Saharan Africa, for example, almost half the young population lives in the most remote and least connected areas (according to WorldPop project data).[iv] Greater connectivity also offers young people a way to build and strengthen their social and human capital, develop skills and boost their self-confidence, thus enhancing their sense of agency and increasing their productivity.

In charge

In order to become more productive and connected, young people in rural areas must have the power to make decisions in their own best interest. While agency is important for everyone, it is especially critical for the successful inclusion of youth in the rural transformation process, since rural youth tend to be excluded more than urban youth or adults are (Trivelli and Morel, 2018). The rapid pace of change today, while providing opportunities to enhance agency, can also be challenging for rural youth, especially for those young people who are facing multiple layers of exclusion. For example, young rural women's sense of agency cannot be developed only by increasing their resources and social positions, their voice and aspirations, because social norms that constrain them will also need to be addressed by changing the attitudes and expectations of their family and society (Van den Broeck and Kilic, 2018; Doss et al., 2018). Poor infrastructure and educational systems and weak sociopolitical structures and institutions can also impede the development of agency.

In context

Individual characteristics clearly influence youth productivity, connectivity and agency. Yet the pay-offs for these characteristics, and the set of characteristics that young people need, depend on the context in which they operate. In particular, there are two aspects that require special attention. The first is the overlapping national, local and family settings in which youth live, learn and work. The intersection of these settings – the level of transformation attained by the national economy and society, the potential productivity and connectivity of the particular area they live in and the capacities of their families – will largely determine the opportunities available to rural youth. The second aspect has to do with the fact that rural youth must contend with a rate of change and with types of changes that are dramatically different from what previous generations experienced. In addition, it is important to identify the particular constraints associated with young people's transition from youth and dependence to adulthood and greater independence. An effective rural youth policy and investment agenda must take into account the particular overlapping settings in which a young person lives and how the dynamics of global change are playing out in those settings. Given the transitional nature of youth, it is also important to determine if and in what particular ways the challenges for them, and therefore the policies and programmes needed to help them, may differ from those faced by the general rural population.

Overlapping settings at the national, local and household levels

A country's level of structural and rural transformation sets the basic parameters of the opportunities open to rural youth by broadly determining the material welfare that rural youth might realistically attain and the structure of opportunities through which they can do so. Generally speaking, as the structural transformation process proceeds, people become more likely to earn their incomes outside the agricultural sector by engaging in wage labour or entering into other formal employment relationships rather than through self-employment. This process is both driven by, and contributes to, rising productivity and incomes throughout the economy (IFAD, 2016).

Understanding the national, local and family settings in which young people live entails understanding the concept of rural transformation, which is the rural manifestation of an economy's broader structural transformation.

Rising incomes lead consumers to spend an ever-greater share of their income on non-food items, even as the absolute level of spending on food increases (Engel, 1857). This leads to two kinds of shifts in labour. First, it drives a sectoral shift as labour moves off the farm and into a wide range of non-farm activities, although many are still linked to agriculture (IFAD, 2016). Rural areas become more productive, income levels rise and a more diversified set of farm and non-farm economic activities takes shape. Meanwhile, agricultural activities begin to make greater use of external inputs, produce more for the market and achieve dramatic increases in farm productivity.

In the initial stages of the transformation process, the sectoral shift in labour is mostly a shift from self-employment on the farm to self-employment off the farm in informal household enterprises. But as incomes rise and markets expand, firms begin to appear that are capable of hiring people, putting them to work while also bringing in new technology (capital) and expanding their production. By boosting overall productivity, these firms become key agents in rural transformation. And this drives the second kind of shift in labour: a functional shift from self-employment to wage employment. This transformation of employment is a fundamental characteristic of structural and rural transformation (IFAD, 2016). The overall transformation of the rural economy affects rural youth by influencing both the level and kinds of opportunities available to them and by helping to determine the types of financially viable policies that will be assigned the highest priority.

Structural and rural transformation on a national scale

The national setting in which rural youth live – the national economy and polity – is of fundamental importance for two reasons. First, decisions about policies, programmes and investments are primarily adopted at the national level, and these decisions can have major effects on the opportunities open to rural youth. Second, a country's level of structural and rural transformation broadly determines the level of material welfare that young people may realistically attain and the structure of opportunities for pursuing that objective. Simply put, national economies at a less advanced stage of transformation offer a narrower range of opportunities that are more closely linked to farming and that generally yield low returns. As an economy transforms, the range of opportunities expands, fewer of these opportunities will be directly related to farming and the potential returns are greater.

Structural transformation is frequently measured by the share of non-agricultural activity in GDP, while rural transformation can be measured by agricultural value added per worker (IFAD, 2016). Countries experience different combinations of structural and rural transformation as their overall transformation process proceeds (see **FIGURE C**). In some – ones with larger natural endowments and public policies that support agriculture – the rural transformation process will progress faster than their overall structural transformation will (countries in quadrant III). Others have achieved a broader structural transformation even while retaining a small-scale, labour-intensive farm sector that yields relatively low returns (quadrant I). Some countries have advanced in both dimensions (quadrant II) and, in still others, a structural or rural transformation process has barely begun (quadrant IV). The patterns of structural and rural transformation depicted in **FIGURE C** have implications for the kind of rural youth policies and programmes that countries can or should pursue.

Many different patterns correlate strongly with the level of transformation that a country has achieved. Broadly speaking, in the most highly transformed economies

FIGURE C Structural and rural transformation processes at the national level set the basic parameters for rural youth opportunities

Country transformation typology

Notes: APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa. Countries are classified as having attained a relatively high degree of rural transformation if their value added per worker exceeds the sample median (US$1,592) and as having attained a relatively high degree of structural transformation if the share of non-agricultural value added exceeds the sample mean (80%). The sample consists of 85 low- and middle-income countries as defined by the World Bank (2018).
Source: Authors.

(quadrant II), non-farm income represents a larger share of total income, the farm sector has higher productivity rates, and average income levels are higher. Their populations are made up, on average, of a smaller proportion of youth (18 per cent) and a larger proportion of urban residents (65 per cent), with the result that the proportion of rural youth is much smaller (7 per cent). They also tend to have stronger institutions and more fiscal resources per capita. As a result, even the very populous countries in this category, such as Indonesia, have more resources to invest in youth, a greater capacity for programming and using those resources, and fewer rural youth to focus them on. If the political will is there, these countries can often make great strides by investing in their rural youth. Most of these countries are in Latin America and the Caribbean and in the Near East and North Africa; Namibia, South Africa and Eswatini are the exceptional cases in sub-Saharan Africa.

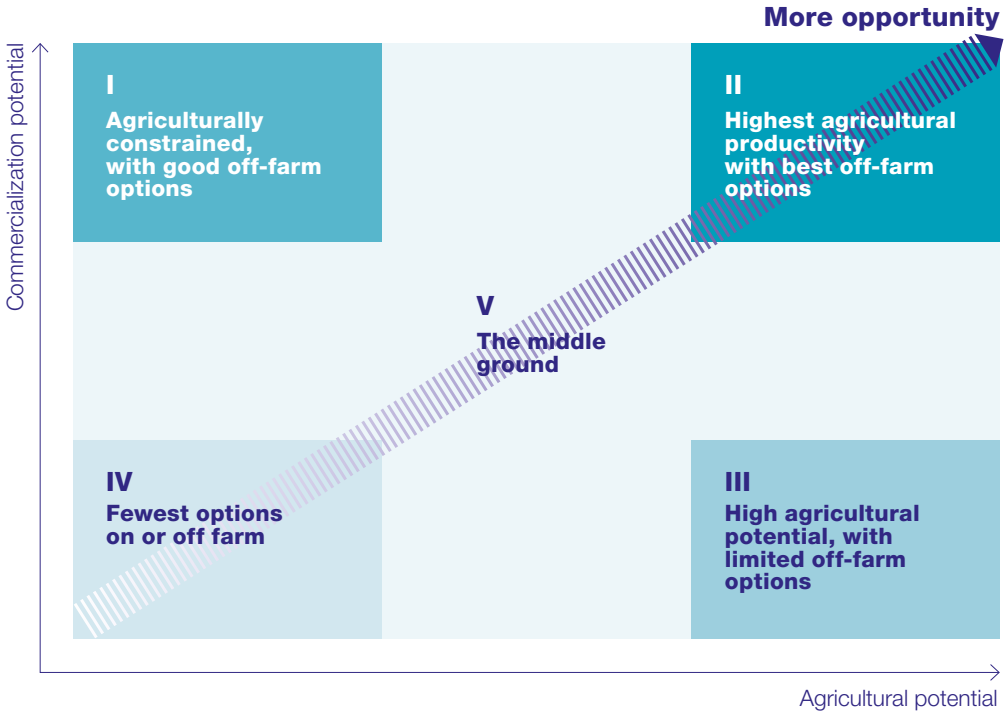
The situation is quite different for the least transformed economies (quadrant IV). These countries have average rural poverty rates of around 50 per cent and per capita incomes only one tenth as high as those found in the most highly transformed economies. While the frequency of conflicts in the quadrant IV countries is similar to what it is in other types of countries, because of the former's weak institutional structure and governance, they are far more likely to be what the World Bank classifies as fragile States. Most of these countries are in sub-Saharan Africa, although some are in Asia and the Pacific. These countries have the largest share of young people overall (20 per cent of the population) and in rural areas (13 per cent, which is nearly double the proportion seen in the most highly transformed countries); they also have the fewest fiscal resources and the weakest investment capacities (see figure 2.1 in chapter 2).

The rural opportunity space

Within a country, rural youth opportunities vary by location. While an economy may be experiencing structural and rural transformations at the national level, not all areas within the country will be changing at the same pace. In rural areas, opportunities are largely determined by the extent of market access (agricultural output, input, labour, finance and other markets), which is what, in turn, determines the area's *commercialization potential*, and by the nature of the natural resource base, which is what, in turn, determines the *potential agricultural productivity* of the area. Both of these factors have strong spatial dimensions (Wiggins and Proctor, 2001; Ripoll et al., 2017) and together they form the *rural opportunity space* (see **FIGURE D**). This economic geography framework shapes what is possible for rural youth, independently of the local context, specific social norms or individual preferences (Sumberg et al., 2018).

Commercialization potential increases with connectivity to cities and markets and with the potential for private sector investment, all of which are of crucial importance in extending opportunities to rural youth. Promisingly, rural towns and secondary cities closer to rural areas are growing faster than more distant capital cities (Roberts and Hohman, 2014). This expansion of secondary cities and towns has had a greater impact in terms of poverty reduction than has the growth of large metropolitan areas because these smaller cities and towns offer more accessible migration destinations for rural residents. Such urban centres are playing an increasingly central role in the welfare of rural areas (Tanzania is one example) and in the generation of more inclusive growth patterns (as in India) (Christiaensen, De Weerdt and Todo, 2013; Gibson et al., 2017).

FIGURE D The commercialization potential and agricultural potential of a particular rural area condition the opportunities that the national setting provides for rural youth



Source: Authors.

Yet physical and virtual connections between these urban centres and rural areas are often poor. The formation of many of the requisite connections depends both on the availability of public goods, such as improved roads and communications infrastructure, and on private investment. Increasingly, the private sector is providing mobile technology, post-harvest facilities and processing capacity, and agricultural inputs in rural areas. Public goods such as improved roads, well-designed legal and regulatory systems and an educated populace are, however, prerequisites for large-scale private investments. A more productive economy and better spatial connections within it will increase the pay-off on investments that specifically target rural youth. Sustained growth and structural transformation are typically associated with a public commitment to investment in health, education and infrastructure (World Bank, 2018). As a result, in countries that are making these investments, their more educated and skilled young people will have more opportunities for productively employing their skills and more agency in seizing those opportunities.

Commercialization potential combines with agricultural production potential to shape the opportunities and constraints encountered by rural youth within the framework of their national setting. Agricultural productivity drives rural transformation and, with it, the sectoral and functional distribution of opportunities for rural youth. While agricultural production potential can be measured in different ways, vegetation

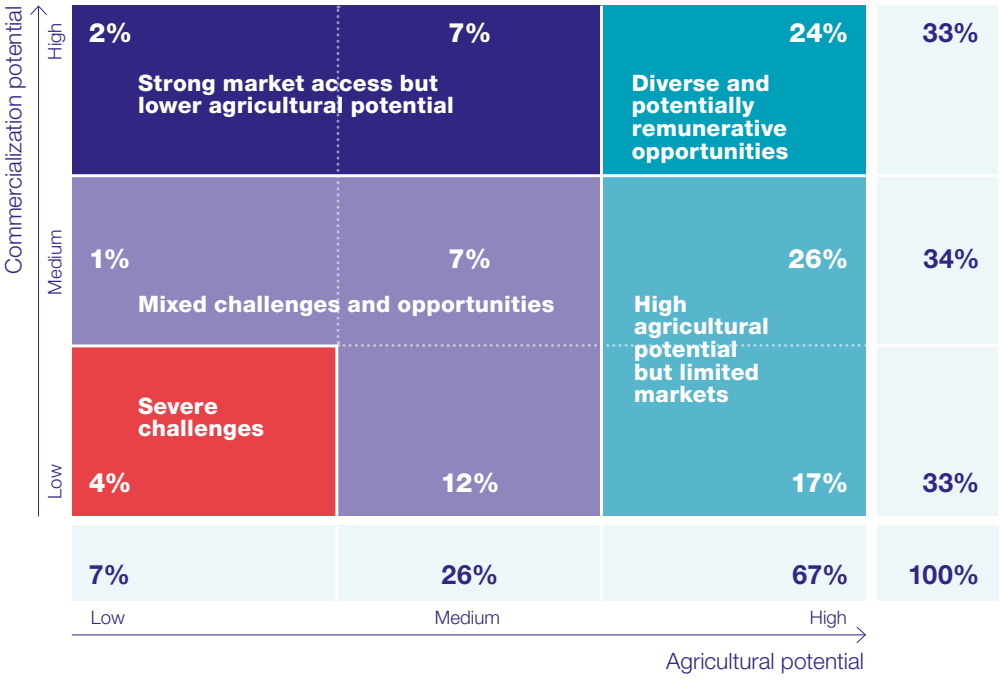
indices based on remote sensing data (such as the Enhanced Vegetation Index (EVI)) are increasingly being used as a proxy to facilitate global comparisons (Jaafar and Ahmad, 2015; Chivasa et al., 2017). For the same reasons, spatially explicit global population data are being used to compute population density for use as a proxy for commercial potential. Combining this with the EVI (excluding built and forested areas) generates an empirical estimation of the rural opportunity space.

A rural opportunity space analysis shows that only 7 per cent of rural youth live in the areas with the lowest agroecological potential (see **FIGURE E**, first column), while 67 per cent live in areas with the highest agroecological potential (see **FIGURE E**, third column). This spatial pattern suggests that agricultural potential per se is not a primary constraining factor for a majority of rural youth. Thus, if this group's farming productivity is low, the reason lies in a lack of access to the necessary markets, both for inputs (especially improved seed, fertilizer and water) and for outputs (whose sale would provide incentives for investing in productivity gains).

One quarter (187 million) of the 778 million rural youth according to the broader definition used in this report live in areas that have both the highest agroecological potential and the highest commercial potential (i.e. they are in the diverse opportunities space, depicted in the following figure in the top right-hand cell).[v] These areas (for example, in Bangladesh, Egypt and Ghana) offer diverse and potentially remunerative opportunities. At the other extreme, only 4 per cent of developing-country youth live in the severe challenges space (i.e. areas that have the lowest agricultural and the lowest

FIGURE E Two out of three rural youth in developing countries live in rural opportunity spaces with high agricultural potential

Modified rural opportunity space



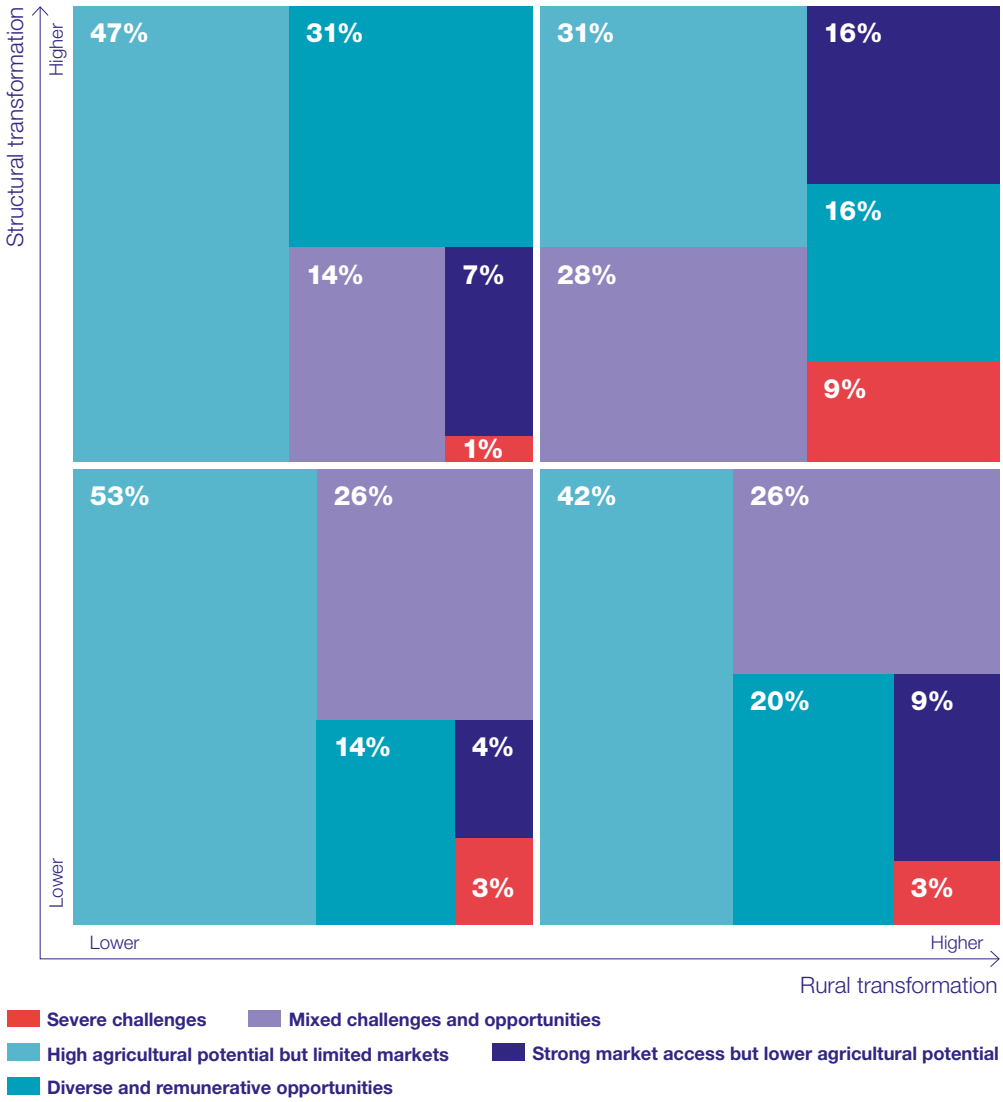
Note: The dataset covers 85 low- and middle-income countries (based on World Bank definitions of these categories and data for 2018).
Source: Authors' calculations based on spatially disaggregated population data from the WorldPop project and data from the EVI of the Moderate Resolution Imaging Spectroradiometer (MODIS) of the National Aeronautics and Space Administration (NASA). A detailed description of data and methodology can be found in chapter 2 and annex B.

commercial potential, as shown in the left-hand cell). Investments in rural youth in these very different parts of the rural opportunity space should therefore be differentiated in order to be effective in making rural youth part of the rural transformation process.

Combining the country transformation typology with the rural opportunity space classification provides a framework for establishing policy, investment and programmatic priorities for helping rural youth become productive, connected and in charge of their own futures (see **FIGURE F**). Two patterns are particularly notable.

FIGURE F The least transformed countries have the largest share of their rural youth population in areas with high agricultural potential. The most transformed countries face the biggest challenge in terms of youth in isolated, low-potential areas

Youth prevalence across the modified rural opportunity space, by country transformation space



Notes: The dataset covers 85 low- and middle-income countries (based on the World Bank definitions of these categories and data for 2018). The sample includes only non-urban areas (rural, semi-rural and peri-urban areas).
Source: Authors' calculations based on WorldPop, EVI and World Development Indicators data.

First, young people who are facing the greatest geographical challenges – those living in the "severe challenges" and "mixed challenges and opportunities" spaces – mainly live in the most highly transformed countries. In fact, across all developing countries, two thirds (65 per cent) of the 28 million rural youth residing in areas where they face severe challenges live in the most highly transformed countries. This group is also most prevalent in the most transformed countries, at 9 per cent of all rural youth. In the least transformed countries, they constitute only 3 per cent of rural youth. The extent of the "severe challenges" space in the most highly transformed countries reflects the existence of small pockets of persistent poverty, rather than widespread poverty. Ghani (2010) refers to this as the "lagging region" problem.

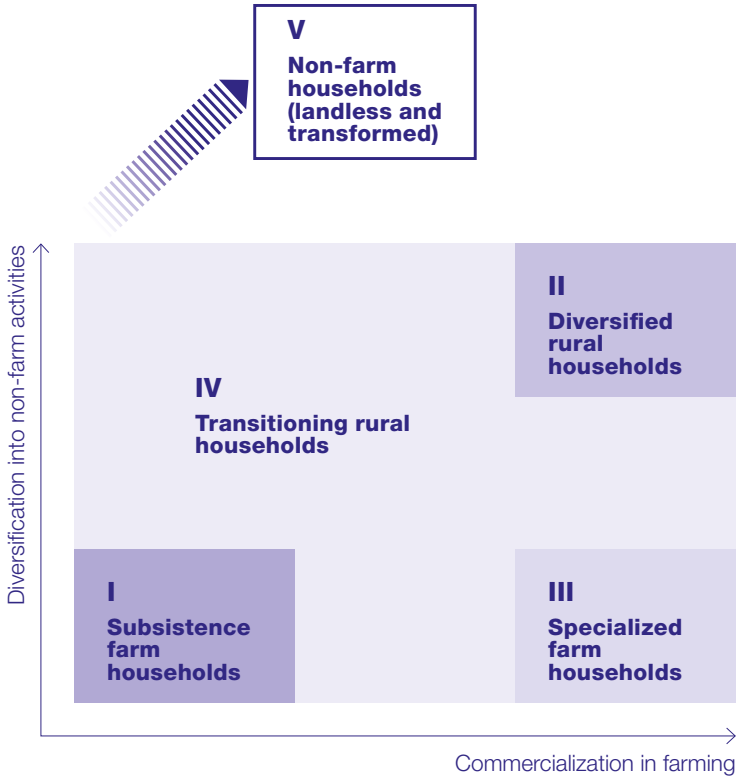
Second, in the least transformed countries, more than half of all rural youth are living in the "high agricultural potential but limited market access" space. Since these countries are also the most dependent on farming, this pattern points to the existence of a great unrealized potential for agricultural productivity growth that could be harnessed if access to output and input markets can be improved.

Household transformation categories

The vast majority of rural youth in developing countries live as dependants in large families. Thus, in addition to the level of transformation of the national economy and the rural opportunity space in which young people reside, the characteristics of their households will also influence their set of opportunities and challenges.

Rural households, like nations, achieve differing levels and mixes of transformation depending on their livelihoods (see **FIGURE G**). Connections to a wide range of markets are required to permit these transformations. Households can diversify beyond the farm to add non-farm income to their portfolio (vertical axis), and some of them leave farming altogether and become fully *transformed non-farm households*. Alternatively, they may invest in their farming activities in order to make them more productive and more market-oriented, with some of them then becoming *specialized farmers* who make a large share of their sales directly from their farming operations and have little off-farm income. Households may also undergo transformations in both

FIGURE G Household transformation categories



Source: Authors.

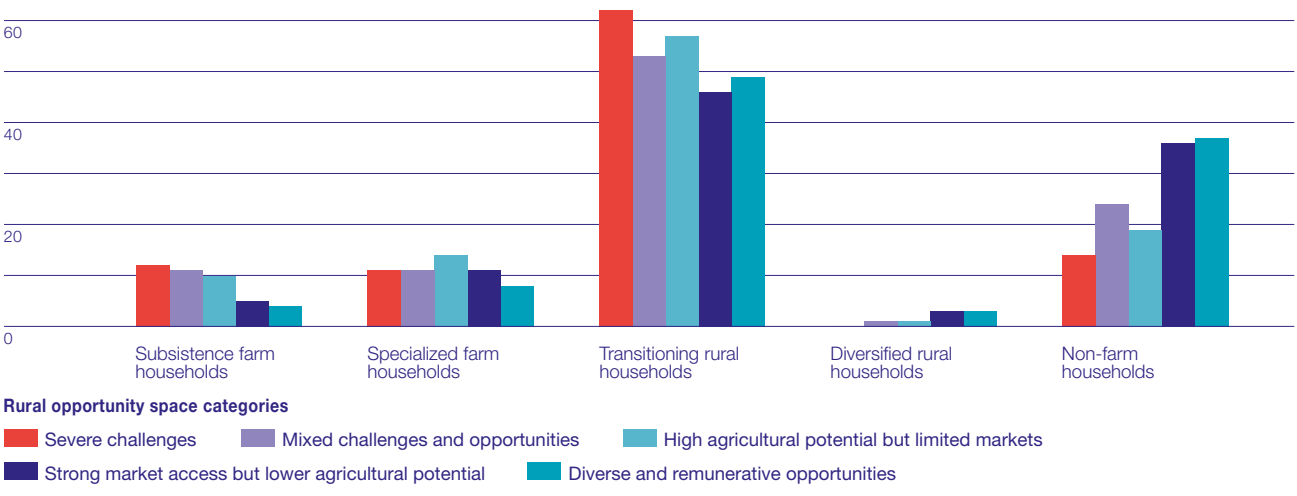
dimensions, intensifying their farming activities and selling much of their output while, at the same time, adding more non-farm income to their portfolios. Those moving the furthest in each of these directions become dynamic *diversified rural households*. Others continue to operate as *subsistence farmers*, who have little non-farm income and sell very little of their farms' output. Perhaps the most challenged group of all are the households that have no land and few other resources: the *landless non-farmers*. Households that have partially diversified without moving into any of these groups are referred to as *transitioning rural households*.

The types of households in which rural youth live frame the opportunities that they can actually grasp out of the set of opportunities generated by their national and rural settings. The types of household categories that predominate are presumably influenced by the country's level of transformation and by the rural opportunity space in which households are located. More highly transformed countries provide more opportunities for economic diversification, for the intensification of farming activities and for leaving farming behind and fully entering into rural non-farm employment. Such countries can thus be expected to have a larger proportion of transformed non-farmers, diversified rural households and (perhaps) specialized farmers in their rural areas. Within a country, more connected rural spaces (those offering diverse opportunities and strong markets with limited agricultural potential) are likely to have more diversified and fully transformed non-farming households, while less connected settings (those that are mixed, entail severe challenges or have a high agricultural potential but limited markets) will likely feature more subsistence households.[vi]

FIGURE H shows just how resoundingly these expectations are confirmed. As the space offers more opportunities (moving away from the severe challenges corner of the rural opportunity space and towards the diverse and remunerative opportunities corner), the prevalence of subsistence households decreases and that of diversified and

FIGURE H Households engage with the economy based on the opportunities that their rural opportunity space offers

Households across the rural opportunity space, percentage by household type



Notes: The percentages of households within each category of the rural opportunity space add up to 100.
Source: Authors' calculations using household survey data from 12 countries in 3 regions (SSA, APR and LAC) combined with population density data from the WorldPop project and EVI dara of the MODIS (NASA) at the enumeration area level.

fully transformed households increases. While there are almost no diversified rural households in the severe challenges space, they are three times more prevalent in the diverse opportunities space and the space in which there are strong markets with lower agricultural potential (the two spaces with the greatest commercial potential) than in mixed spaces and in spaces having a high agricultural potential but limited markets.

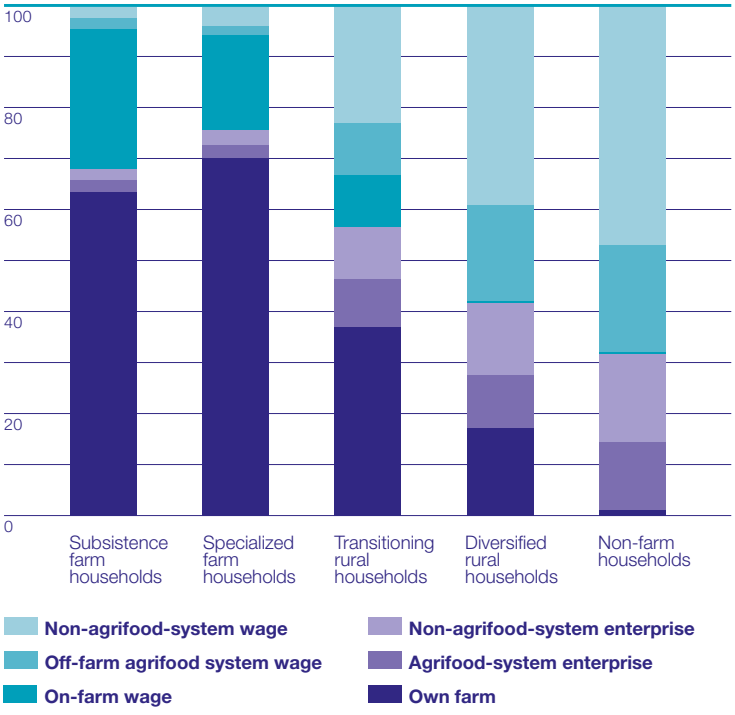
Fully transformed non-farming households – rural households that have left farming – are slightly more common in the highest opportunity space (diverse opportunities) than in the second-highest (strong markets with lower agricultural potential). This suggests that, faced with the same level of market connections (all those in the top row of **FIGURE E**), more of these households choose to specialize in the non-farm economy than to diversify both on and off the farm. This is consistent with broad evidence that off-farm engagement in rural areas is strongly associated with higher incomes (Haggblade, Hazell and Reardon, 2007).

In general, diversified rural households and fully transformed non-farming households – regardless of the transformation levels of the local rural space and the broader national economy – are able to provide their young people with more opportunities. Households in these categories have the lowest poverty rate and the largest share of young people with a secondary education.

What rural youth do depends on what the other members of their households do, but only in part. The basic pattern is one in which young people divide their time between on-farm and off-farm activities in very much the same way as their families do, but they clearly diverge from that pattern when it comes to the kind of non-farm work that they perform. In subsistence farming households, specialized farming households and transitioning households, rural youth devote most of their working time to their household's own farm and to farm wage work. Those residing in households that are less oriented towards farming (diversified rural households and fully transformed non-farming households) work predominantly for wages off the farm (see **FIGURE I**). Rural youth in landless non-farming households are the group that devotes the most working time to on-farm wage labour. These patterns mirror the activities of the youths' households.

FIGURE I What rural youth do depends, but only in part, on what the other members of their households do

Distribution of rural youth work effort, by functional and sectoral employment categories, percentage of full-time equivalents



Notes: Non-farming households include landless households that rely on farm wage work (less than 1 per cent of the total) and fully transformed households that also do not have own-farm income and mostly work for wages off the farm (in and out of the agrifood system – 40 per cent of the total).
Source: Authors' calculations using data on 128,227 individuals representing around 134 million rural youth in 12 countries in Asia and the Pacific, Latin America and the Caribbean, and sub-Saharan Africa.

The divergence of young people's off-farm labour patterns from those of their households is quite clear. To a much greater degree than older household members, they consistently engage in off-farm wage work (primarily in the agrifood sector) and engage much less in any kind of enterprise work. This likely reflects their limited access to the assets and capital needed to start a business, which is to be expected, given the transitional life cycle phase that they are in. The rural transformation process, in the agrifood sector as elsewhere, is increasingly connecting areas along the rural-urban continuum; hence the importance of youth-centred investments in the agrifood sector that will create employment opportunities.

Constraints hindering the transition from dependence to independence

While the opportunities open to rural youth depend on the corresponding national, rural and household settings, creating broad opportunities in these settings does not guarantee that rural youth will be able to seize them. In order to do so, rural youth who are transitioning from dependence to independence must have certain capacities, skills, financial resources and key assets (such as land) in order to be able to seek out opportunities and take advantage of them. Social norms and local circumstances (agrarian dynamics and the policies and institutions that underpin them) also determine how rural youth "read" opportunities (Sumberg et al., 2018). This is doubly true of young rural women, who often face social constraints that prevent them from pursuing capacities and connections that would enable them to take charge of their own lives. Rural youth from ethnic minorities or other marginalized groups may similarly face more severe constraints than members of the dominant ethnic group.

Capacities and skills

Rural youth need capacities and skills that are very different from those of their parents. The nature of work is changing faster than ever before, creating a demand for new sets of skills. Rural transformation, particularly of the agrifood system, is extending the reach of markets into new areas, linking rural and urban areas and fuelling competition for outputs from farms of all sizes. The digital revolution is making access to information increasingly central to success both on and off the farm. Young people need to understand the modes of communication that are embedded in these applications and to know how to search for information and create networks of contacts.

Rapid technological progress is also reshaping the future of work by increasing the demand for the types of human capabilities that cannot be fully mimicked by machines (World Bank, 2018). In order to adapt to these complex demands, educational institutions have to teach not only basic technical skills but also advanced cognitive skills (critical thinking and problem-solving) and the non-cognitive skills needed for successful youth employment (Fox, 2018; Filmer and Fox, 2014; World Bank, 2018). Non-cognitive skills include personality traits such as conscientiousness, extraversion, agreeableness and openness to experience. Evidence is emerging on the importance of these skills in both wage employment and self-employment and in the establishment of microenterprises in rural and other areas in developing countries. These skills,

together with cognitive skills, are strongly linked to employment and earning outcomes (Heckman and Kautz, 2013).

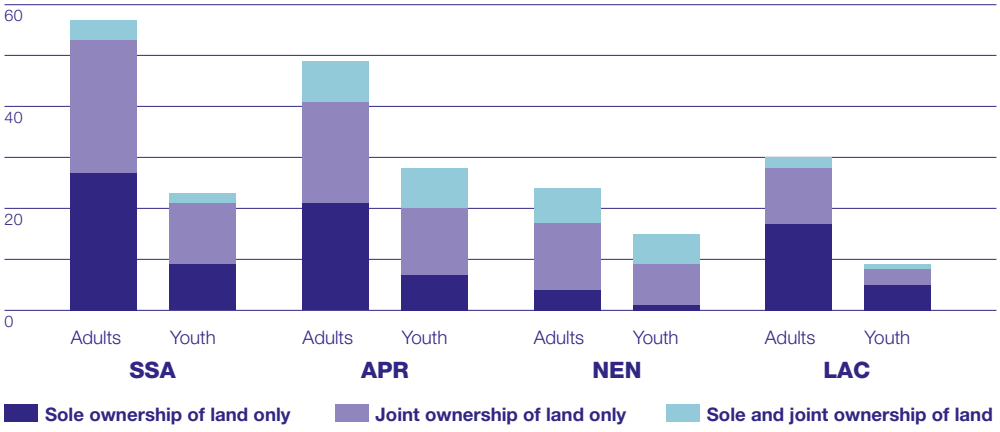
Land

Young people in rural areas who wish to become farmers have always faced the challenge of gaining access to land, but three factors now make this challenge even more formidable. First, owing to rapid population growth, particularly in sub-Saharan Africa, much of the rural population now lives in more densely settled areas. Land is becoming less available, and plots are becoming smaller and more fragmented. Second, parents are living longer and are continuing to farm their land for a longer time, and they are therefore less likely to transfer land to their children when their children are entering the labour force. Children who want to farm can thus either work their parents' land, thereby delaying their transition to independence and their attainment of greater decision-making authority, or, if their finances and local rental markets allow, they can rent land. If they rent, issues of land quality and tenure security become a concern (Yeboah et al., 2018). Third, the rapid rise of medium-scale commercial farms, driven by the expansion of markets made possible by the structural and rural transformation processes, is increasing the competition for land. Such farms control an estimated 30 to 50 per cent of the farmland in Ghana, Kenya, Malawi and Zambia (Jayne et al., 2016). As a result, young people are significantly less likely than adults to own land, and they are even less likely to have sole title to it (see **FIGURE J**). In sub-Saharan Africa, around 1 in 3 adults is the sole owner of a plot of land, while this is true of fewer than 1 in 10 young people.

While climate change is expected to worsen the land constraints faced by rural youth (see chapter 7), the digital revolution can offer opportunities that facilitate access to land registries and rental markets (see chapter 8). Targeted investments can address such challenges and tap into the opportunities presented by the dynamics of change.

FIGURE J Rural youth own less land either solely or jointly than adults

Types of land ownership by adults and youth, percentage by region



Notes: SSA: sub-Saharan Africa; APR: Asia and the Pacific; NEN: Near East, North Africa, Europe and Central Asia; LAC: Latin America and the Caribbean.
Source: Authors' calculations based on Demographic and Health Survey (DHS) data from 42 countries.

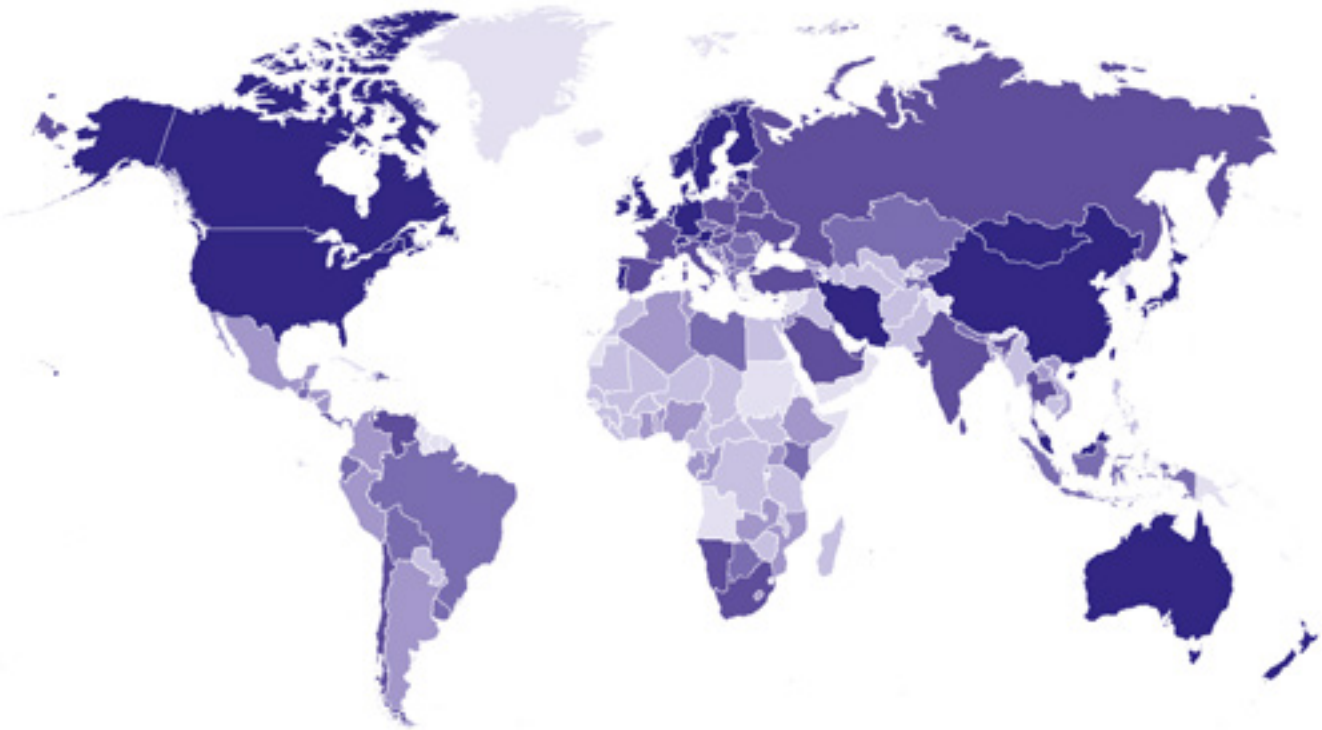
Finance

Access to finance is more important in today's transforming economies, and rural youth face greater challenges in this regard. The profitability of farming increasingly depends on the use of purchased inputs, especially when producing for dynamic markets, such as fresh produce for growing cities. Access to credit can ease entry into such markets (Tschirley et al., 2017). Entry into off-farm self-employment also requires some initial investment, and operations can be greatly enhanced by access to credit. Young people have fewer contacts and assets and so have more difficulty gaining access to formal financial services. They also make up a disproportionate share of the unbanked population worldwide (see **MAP B**) (Gasparri and Muñoz, 2018). Rural youth are likely to be worse off than urban youth in this respect given the more remote nature of the places where they live.

Yet the digital revolution promises to bring good news on the financing front. Digital financial services such as mobile money can reduce age-related, gender-based and rural-urban gaps in access to financial services (Clement, 2018; Sekabira and Qaim, 2017). Mobile money account penetration is similar in rural and urban areas, and youth have higher uptake rates than adults (Aker, 2018; Gasparri and Muñoz, 2018).

MAP B Youth in developing countries have little access to formal financial institutions

Percentages of youth with an account at a formal financial institution (2017)



Source: World Bank (2017a).

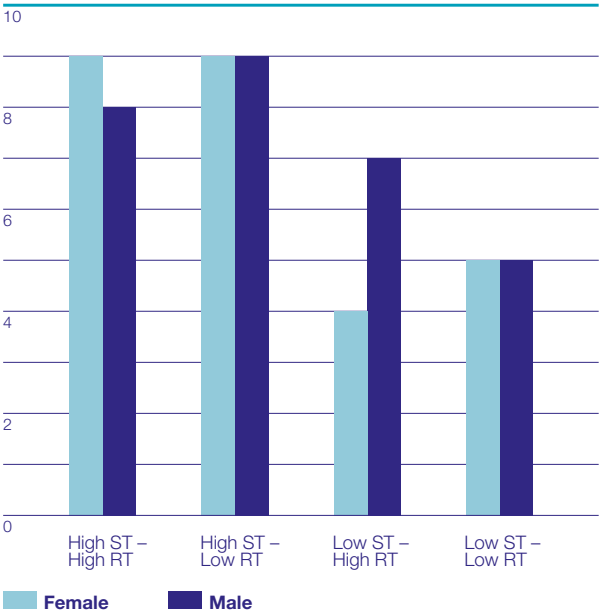
Gender

Young rural women face additional constraints that may hinder them from gaining the agency and thus the extent of productive engagement they need to prosper in the new economy. Economic and technological change often outpace changes in social norms. A young woman with a smartphone in a rural village in Bolivia, Cambodia or Niger has access to information, ideas and possibilities that her parents could not have dreamed of, but social norms may prevent her – more than they would a young man – from acting on these possibilities. There is a greater need than ever before to speed up investments in ways that will lighten the triple burden that such women bear by virtue of the fact that they are young, female and rural.

Economic transformation and economic opportunities shape young rural women's lives and livelihoods as they transition from school to marriage and child-rearing and are then faced with different occupational choices. In less transformed economies, the level of educational attainment is low for all rural youth but lowest for young women (see **FIGURE K**). Levels of education are higher for all rural youth, and no lower for young rural women than for their male counterparts, in countries with higher levels of structural transformation. But rural transformation alone does not appear to narrow the gender gap in education.

FIGURE K Structural transformation reduces the gender gap in education, but rural transformation alone does not

Number of years of schooling, by gender and country transformation category



Note: ST: structural transformation; RT: rural transformation.
Source: Doss et al. (2018) based on Demographic and Health Surveys (DHS) data for 42 countries.

Furthermore, young rural women are only half as likely as young rural men to have sole title to a plot of land, regardless of the level of rural transformation, and they are almost twice as likely as young rural men to neither work nor be in school, in most cases as a result of marriage and child-rearing responsibilities. In India, however, the fact that 25 per cent of young rural women are neither employed nor married or raising children would appear to point to the presence of structural discrimination against young women's participation in the economy and society (Doss et al., 2018).

The unprecedented rate and nature of change today

Many of the changes accompanying structural and rural transformations are unfolding at a faster pace or in different ways than in the past. These demographic, economic, environmental and technological changes are simultaneously opening up some opportunities for rural youth and closing off others. Investments, policies and programmes centred on rural youth need to take these differences into account.

Demographic change

Three types of demographic change are rapidly altering the national and rural context in developing countries. The first is urbanization. Since 1990, urban populations in low- and

middle-income countries have risen from 33 per cent of those countries' total population to 50 per cent (UNDESA, 2014); this has implications for the level and structure of opportunities and challenges. For example, urban areas now account for more than half of the total domestic market for food in developing countries. Market links to urban areas are thus central to the income and food security of smallholder farmers.

The second demographic change, which is primarily being seen in the least transformed countries, is a rapid increase in rural population density. Even as countries have urbanized, rural populations have more than doubled in developing countries since 1950 and increased nearly fourfold in the least developed nations (UNDESA, 2014). Urbanization (including the rise of secondary cities), rural densification and the growth of rural towns are reducing the literal and figurative distance between urban and rural areas and giving rise to greater opportunities in rural areas thanks to improved connections to markets as a result, among other factors, of increased mobility and migration.

The third major demographic process that is now under way is the demographic transition, which yields a *demographic dividend* that could potentially have long-lasting positive effects in terms of growth and transformation. This process has reached a quite advanced stage across all developing regions except sub-Saharan Africa, where the number of young people is growing very rapidly in absolute terms and is even growing modestly relative to the total population. The challenge for countries in that region is to find a way to address the needs of the world's fastest-growing youth population even though they have the fewest fiscal resources to invest in that generation. The very slow pace of their demographic transition may also hold back their long-term growth (see chapter 5).

Digital revolution

Today's rural youth are the first generation of young people whose entire working lives will be permeated by digital technology. By reducing the cost of information and massively increasing its availability, this technology has dramatically sped up the pace and altered the nature of change. This is having two main effects. On the one hand, the rise of the "intelligent automation" made possible by digital technology is speeding and broadening the advance of automation while partially closing off previous avenues, such as labour-intensive manufacturing, used by rural youth to escape poverty (World Bank, 2018; McMillan et al., 2016).

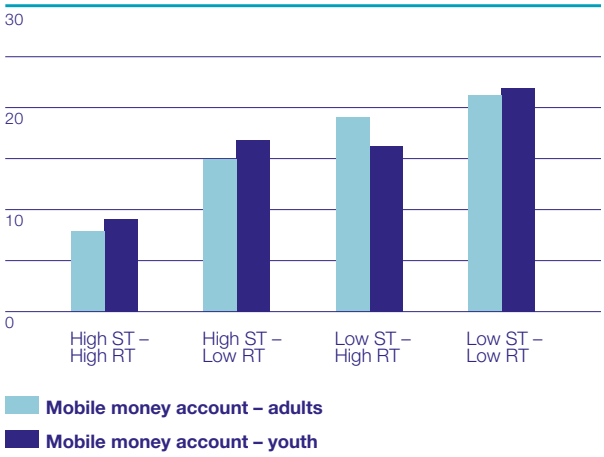
At the same time, however, the penetration of digital technology into all economic and social spaces is opening up new opportunities for rural youth to increase their connectivity, productivity and agency. Digital technologies that reduce information and transaction costs have spread rapidly in developing countries and are narrowing rural-urban and income divides (Aker, 2018). More than 70 per cent of the sub-Saharan population now has mobile phone network coverage (Aker, 2018; Groupe Spéciale Mobile Association, 2017). Leapfrogging traditional financial systems, mobile money has spread more rapidly among youth in less transformed economies than in the more highly transformed nations (see **FIGURE L**), thus providing them with greater access to finance.

Farming and marketing practices made possible by new technologies are increasing productivity in the agricultural sector (Bello, Bello and Saidu, 2015; Noorani, 2015). The rapidly emerging "Internet of things" is opening the way for precision agriculture, the use of drones to monitor livestock and crops, and "smart greenhouses" that can automate

many crop husbandry activities.[vii] Rural youth can profit from these new technologies as investments expand broadband and physical infrastructure in rural areas in ways that increase competition among providers and thus bring down costs. Investments can also be used to equip youth with the cognitive and non-cognitive skills they need to see the promise in the technologies, to anticipate their perils (such as overindebtedness as a consequence of the temptations of easy-access mobile finance) and to use them to their benefit.

The digital revolution will not play out in a vacuum. While its impacts on the changing nature of work and competition are being felt globally as they work their way through the various markets, the *opportunities* that the revolution engenders are in proportion to the *fundamental capabilities* existing in a given location. Rural youth living in countries and spaces in which fundamental capabilities are lacking – poor physical infrastructure and educational systems, socio-political structures that impede agency and empowerment, and weak public and civil society institutions – will have a much harder time capitalizing on the opportunities that this revolution offers. How governments respond to this situation will determine whether the revolution widens or bridges the rural-urban digital divide.

FIGURE L Mobile money provides youth in the least transformed countries with access to finance



Note: ST: structural transformation; RT: rural transformation.
Youth: 15-24 years of age; adults: 25 years of age and over.
Source: Gasparri and Muñoz (2018) based on data from the World Bank (2017) adapted by the United Nations Capital Development Fund.

Climate change

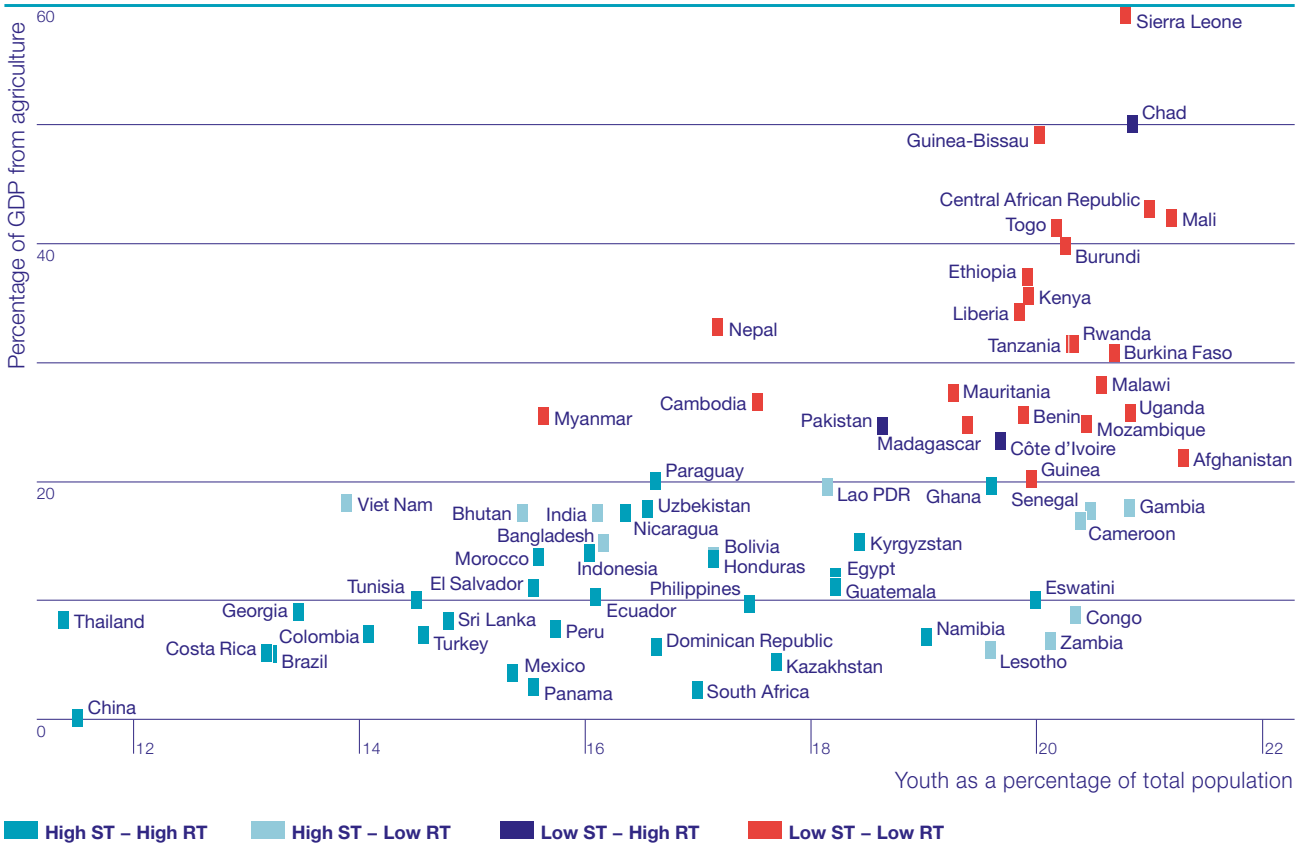
Rural youth are likely to be worse off than the rest of the population in terms of all three of the elements that determine the extent of vulnerability to climate change: exposure, sensitivity and adaptive capacity (Füssel, 2017; Füssel and Klein, 2006; IPCC, 2014). The latest report by the Intergovernmental Panel on Climate Change warns that the world has little time left to take action to avert the devastating impacts of climate change (IPCC, 2018). Addressing the challenges faced by rural youth becomes even more difficult in this context.

Countries with large youth populations are typically poor and still heavily agricultural, which is one of the sectors most directly affected by climate change. Almost all countries that depend on agriculture for more than 20 per cent of their GDP have youth populations equivalent to more than 19 per cent of their total population and low levels of structural and rural transformation (represented by red dots in **FIGURE M**). Countries in West and Central Africa – notably the Central African Republic, Guinea-Bissau and Sierra Leone – are in this position. These countries are also in the midst of post-conflict or fragile situations, making it all the more pressing to address the challenge of youth inclusion.

Climate model projections indicate that many of these countries will be subject to increasing *exposure* to the impacts of climate change, such as extreme heat stress and generally more extreme weather events, which will have an especially strong impact on rural youth, who have limited options outside of the agriculture sector. *Sensitivity* to

FIGURE M Countries with the highest proportions of young people also depend heavily on agriculture and have the least capacity for coping with climate change

Agriculture dependency and youth as a percentage of total population



Note: ST: structural transformation; RT: rural transformation.
Source: Arndt et al. (2018).

climate shocks rises in step with a lack of social capital and skills and in the absence of community participation (Brooks, 2003; Adger, 2009). Finally, *adaptive capacity* depends on access to resources such as land, credit and insurance, again putting rural youth at a disadvantage (Gasparri and Muñoz, 2018; Yeboah et al., 2018).

Thinking differently about investing in rural youth

In the rush to help rural youth navigate today's rapidly changing environment so that they may become productive and connected individuals in charge of their own future, decision makers can make two mistakes. One is to continue to invest in old solutions that are no longer effective in this changing environment. An example could be old-style vocational/technical programmes that do not prepare youth for the new structure of economic opportunities and challenges that is taking shape. A second error is focusing too much on investments specific to youth in countries and spaces where the primary problem is a

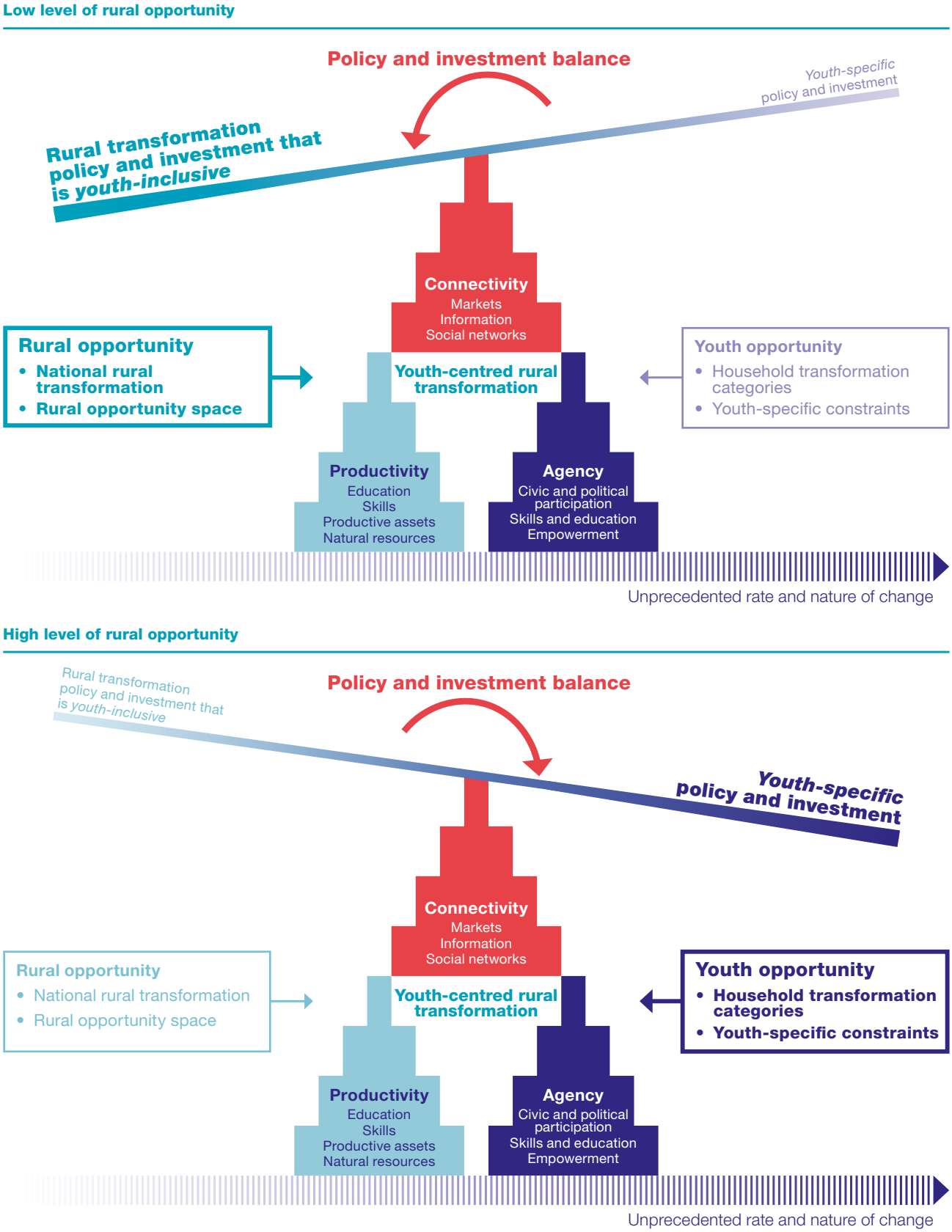
broad-ranging lack of economic opportunity that would undermine the effectiveness of these kinds of targeted investments.

The challenge is to find the right balance between investments that promote widespread rural opportunity and those that focus specifically on opportunities for young people (see **FIGURE N**). The best balance between these different kinds of interventions will depend on the extent of the different types of transformation processes and opportunities to be found in a given space. Thus, in places with low levels of transformation and limited opportunities, youth-specific approaches that do not address broader issues are unlikely to produce sustainable results. Therefore, if rural opportunity is limited by a low level of rural transformation in a country or by a limited commercial potential, policies and investments will need to focus primarily on promoting rural transformation. This entails improving productivity, connectivity and agency among the rural population as a whole in order to foster rural transformation and thus expand the opportunities for all. In these types of contexts, youth-related investments should focus on fostering rural youth inclusion in the broader rural transformation process rather than on furthering youth-specific interventions. For example, an investment strategy aimed at enhancing the commercial potential of agriculture in a rural area with a great deal of agroecological potential should focus on ensuring that young people are included in this effort and that they benefit from it.

On the other hand, when rural opportunities already exist because a region has reached a high level of rural transformation and has strong commercial potential, then policies and investments may seek to address constraints that are specific to young individuals and their families. For example, young people may have difficulty securing employment or becoming entrepreneurs in existing productive agricultural value chains, may find it difficult to produce crops for commercial markets due to land constraints, or may be unable to start non-farm businesses due to a lack of access to financial services, as discussed earlier. Investing in broader rural development initiatives continues to be important in these contexts as a means of supporting and enhancing ongoing transformations, but *youth-specific investments* can complement these wider-ranging efforts and help to overcome specific constraints that are impeding the inclusion of the young population.

In summary, creating opportunities for rural youth requires policies and investments that promote rural development in general and rural youth inclusion in particular. The relative emphasis on one or the other type of intervention will depend on the opportunities existing in a given space. When opportunities are scarce for everyone – including youth – the focus should be on expanding those opportunities across the board. This entails fostering a rural transformation process through investments in productivity and connectivity while enhancing the inclusion and agency of young people within that broader transformation process by means of targeted investments. In more highly transformed countries and spaces, where more opportunities exist, investments should be designed to maintain and to continue to expand those opportunities while also tackling constraints that are specific to young individuals and their families in order to enable rural youth to maximize their potential participation in those transformations and to benefit from them.

FIGURE N Balancing investments that promote widespread rural opportunity and those that focus specifically on youth opportunity



Source: Authors.

The unprecedented rate and nature of change and the dynamics that surround the rural youth population are such that their opportunities and constraints are changing rapidly. Policymakers should consider which investments are needed now in order to alleviate constraints on rural youth and which ones will be required later on in order to generate medium-term pay-offs (Filmer and Fox, 2014).

For example, climate change is making the ability to adapt to new production environments crucial to success, thereby creating a demand for the capacity to process complex information about risks and new technologies in order to facilitate that adaptation. The digital revolution, by enabling wider-ranging information exchange, may help youth adapt to climate change. By investing in low-cost access to mobile technology, which in turn gives access to the rapidly updated information available on the web, governments can counter the effects of the decreased capacity of traditional information systems, including rural extension systems, to deal effectively with change (Lipper et al., 2014). Yet because this information may be highly complex, young people will need strong cognitive and non-cognitive skills if they are to be able to use it properly to develop strategies that work for them. And in order for that to happen, countries will need to improve their education systems (Muttarak and Lutz, 2014) and extension systems and orient them towards learning to learn. Action is thus required in multiple spheres and across time.

Embedding rural youth policy and investments in broader rural development strategies

Policies and investments for improving opportunities for rural youth have to be integrated into national and local strategies, policies and programmes. This vertical policy integration then needs to be complemented by horizontal coordination of sectoral policies and programmes related to rural youth in such fields as health, education, agriculture and employment (United Nations, 2018).[viii]

The last few decades have seen a proliferation of national youth policies that place youth at the centre of what are often ambitious, multisectoral policy initiatives designed to improve development outcomes for young people. In 2014, 122 countries had a national youth policy or strategy in place, and more than 40 per cent of the countries in all regions had approved youth policies (Youth Policy, 2014). Yet approving a youth policy does not necessarily translate into appropriate budget allocations or effective implementation, much less the inclusion of rural youth in the transformation process. A review of 57 of these youth strategies showed that 40 of them considered rural youth development in some way and 15 included at least one specific policy objective or programme targeting rural youth, but 17 made no mention of rural youth at all (Phillips, Pereznieto and Stevenson, 2018). Interestingly, the degree of policy focus on rural youth in a particular country does not appear to be related to the relative size of the rural youth population.

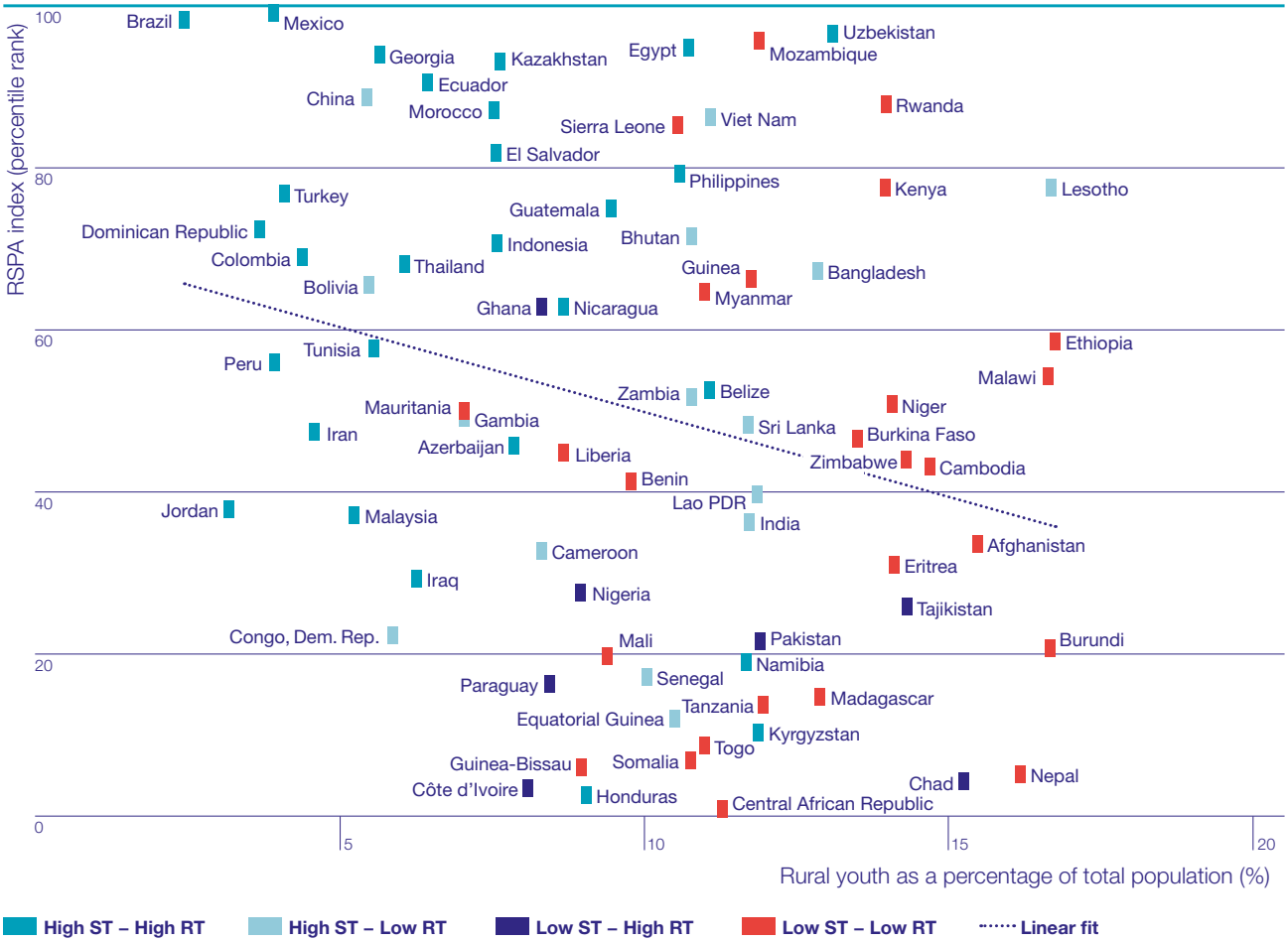
To what extent should a country design and invest in ambitious, youth-specific policies and programmes? The answer depends on the scope of the rural opportunities that are available, given the country's level of transformation and the nature of its rural opportunity space. This conclusion is underscored by the strong correlation between

countries with large rural youth populations and those with weak policy and institutional capacities, as measured by IFAD's Rural Sector Performance Assessment, which measures the quality of policies and institutions in the rural sector for achieving rural development and inclusive rural transformation (IFAD, 2018). Rural youth populations are heavily concentrated in countries with weaker institutional capacities for formulating and implementing policies for rural development (see **FIGURE 0**). Not surprisingly, these countries are also more likely to have the lowest levels of structural and rural transformation.

Many countries that have a national youth strategy also have a national ministry of youth tasked with implementing that strategy, such as the Ministry of Youth and Sports in Ethiopia and in Turkey and the Ministry of Youth and Information and Communications Technology in Rwanda. While having a ministry of youth may be seen

FIGURE 0 Large rural youth populations are found in countries with weak policy and institutional capacity

Rural sector performance ranking and rural youth as a percentage of total population in 2015, by country transformation level



Note: IFAD's Rural Sector Performance Assessment (RSPA) measures the quality of policies and institutions in the rural sector for achieving rural development and rural transformation benefitting the poor. See annex A for more information on the RSPA.
Source: Authors' calculations using IFAD's RSPA index data and population data from United Nations Department of Economic and Social Affairs (2017).

as a sign that priority is being placed on the young population, the scope of its agenda (which may, for example, be confined to sports) may be much more limited than if the youth strategy were managed by ministries with broader mandates. If a ministry of youth exists, it should have a mandate to formulate a comprehensive rural youth agenda.

Investments in multi-component programmes that address the full range of constraints to which young people are subject will be more effective in improving youth development outcomes if governments have the capacity to design and implement those programmes properly (Kluve et al., 2017; Alvarado et al., 2017). These cross-sectoral programmes require horizontal coordination among leaders and stakeholders at the same territorial level (Leyton Navarro, 2018) and should include mechanisms for promoting the participation of rural youth. Governments tend to engage young people only when dealing with youth-related issues (such as volunteering and sports) instead of integrating them into a wider range of activities. The effective participation of rural youth in broader decision-making processes will help to create a conducive policy environment that maximizes young people's assets, agency and access to services and opportunities and that will help them to develop the ability to avoid risks and be secure.

Many countries deserve to be commended for their efforts and for the investments that have been made to include their young populations in the development process, yet they should also be encouraged to broaden the scope of these efforts and investments. In the case of rural youth, in particular, policies and investments should be directed towards providing a wide range of rural opportunities while promoting youth inclusion. Only then will rural youth be able to improve their future prospects and create a dividend for society.

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Endnotes

i See the specific targets of Goals 4 and 8, along with General Assembly resolution 71/313, which states that "Sustainable Ddevelopment Goal indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics." https://unstats.un.org/sdgs/indicators/indicators-list/.

ii The term "developing countries" is used to refer to low-income countries, lower-middle-income countries and upper-middle-income countries as defined by the World Bank.

iii Youth is defined differently in different countries. In order to ensure comparability, this report employs the United Nations definition of youth as people between the ages of 15 and 24 (see paragraph 19 of the annex to the report of the Secretary-General on the International Youth Year, A/40/256, 1985). In recognition of the fact that the concept of youth is a social construct, at times quantitative information whose scope exceeds the bounds of this age group is provided.

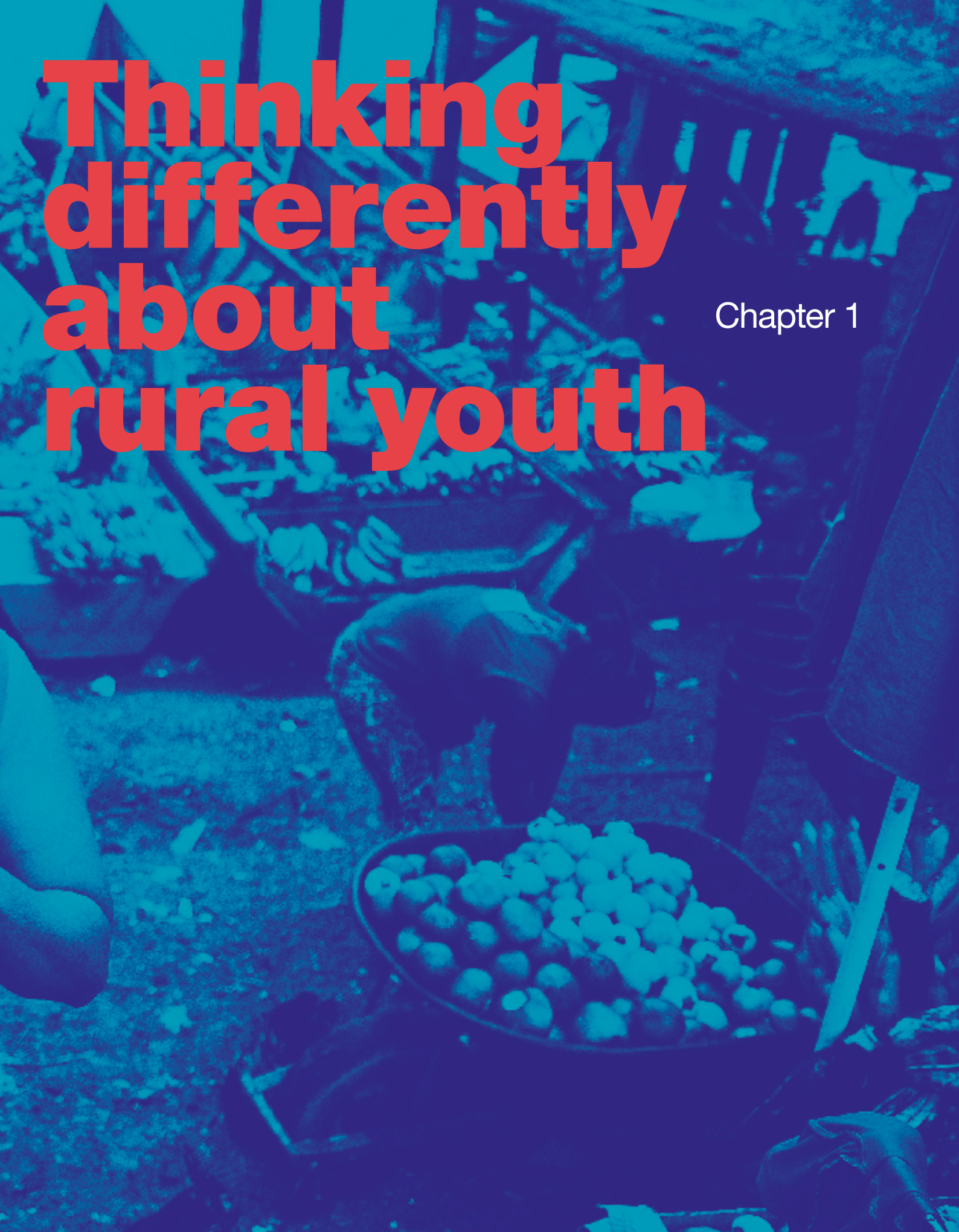
iv For further details and publications, see: http://www.worldpop.org.uk/data/methods/.

v This report applies the rural opportunity space concept to map the developing world's population on a globally comparable rural-urban continuum based on population density data rather than administrative delineations. Using this broader definition, rural is considered everything that it is non-urban. Thus, rural youth refers to young people living rural, semi-rural and peri-urban areas on the continuum. Applying this definition, there are 778 million rural youth in developing countries (see chapter 2 and the annex B of the main report for further information).

vi The term "subsistence" is used in a relative sense, since subsistence farmers in the strict sense of the term, i.e. farmers who are not engaged at all in any market either on or off the farm, are rare.

vii See https://www.iotforall.com/iot-applications-in-agriculture/ [downloaded 15 October 2018].

viii Vertical policy integration refers to mechanisms that deal with the challenge of coordinating and integrating development strategies and policies across different levels of government. It entails linking different scales of governance, from the local to international levels, as well as institutions across different levels of social organization. See Gløersen and Michelet, 2014.



Thinking differently about rural youth

Chapter 1

Why young people are important for rural development

Youth is a distinct stage of human development, a time of transition from dependence to independence and a time marked by critical decisions that affect the future of the individual and society. A successful transition results in a well-adjusted adult who is able to prosper and to contribute to the economy and society. This generates long-term pay-offs for the individual, his or her family and the broader social and economic groups of which the individual is a part. An unsuccessful transition may result in lifelong poverty and social maladaptation, generating long-term negative outcomes for the individual, his or her family and society at large. Thus, since the stakes are so high, this period of life is universally a focus of intense concern.

Concern about youth has deepened even further across developing countries[1] over the past decade for several reasons. First, there is the sheer number of young people and this population segment's rate of growth. Nearly 1 billion of the 1.2 billion people in the world between the ages of 15 and 24[2] reside in developing countries, and their numbers are growing far more rapidly than in higher-income countries. Second, there is the unprecedented rate and nature of change to which today's young people and their societies are having to adapt, and there is a tremendous degree of uncertainty about how to respond to these changes. Third, there is the fact that young people's aspirations are rapidly increasing in step with their rising incomes and unprecedented access to globalized information. Together, these factors have created a sense of urgency among national policymakers and international organizations as they strive to understand what needs to be done in order to ensure these young people's futures and, with them, the futures of the developing countries in which they live.

The large youth populations and their rapid growth in the world's poorest countries, especially in Africa, has to do with the slow pace of these countries' demographic transitions from high birth and death rates to lower ones. Because the decline in birth rates comes later than the decline in death rates, countries pass through a period during which they have increasingly young and rapidly growing populations. If this transition happens quickly, with only a short lag between the initial fall in death rates and the later fall in birth rates, then the period of rapid population growth is short and the number of youth remains manageable. If, instead, the fall in birth rates is slow in coming, then countries may experience an extended period of rapid population growth combined with a very young population.

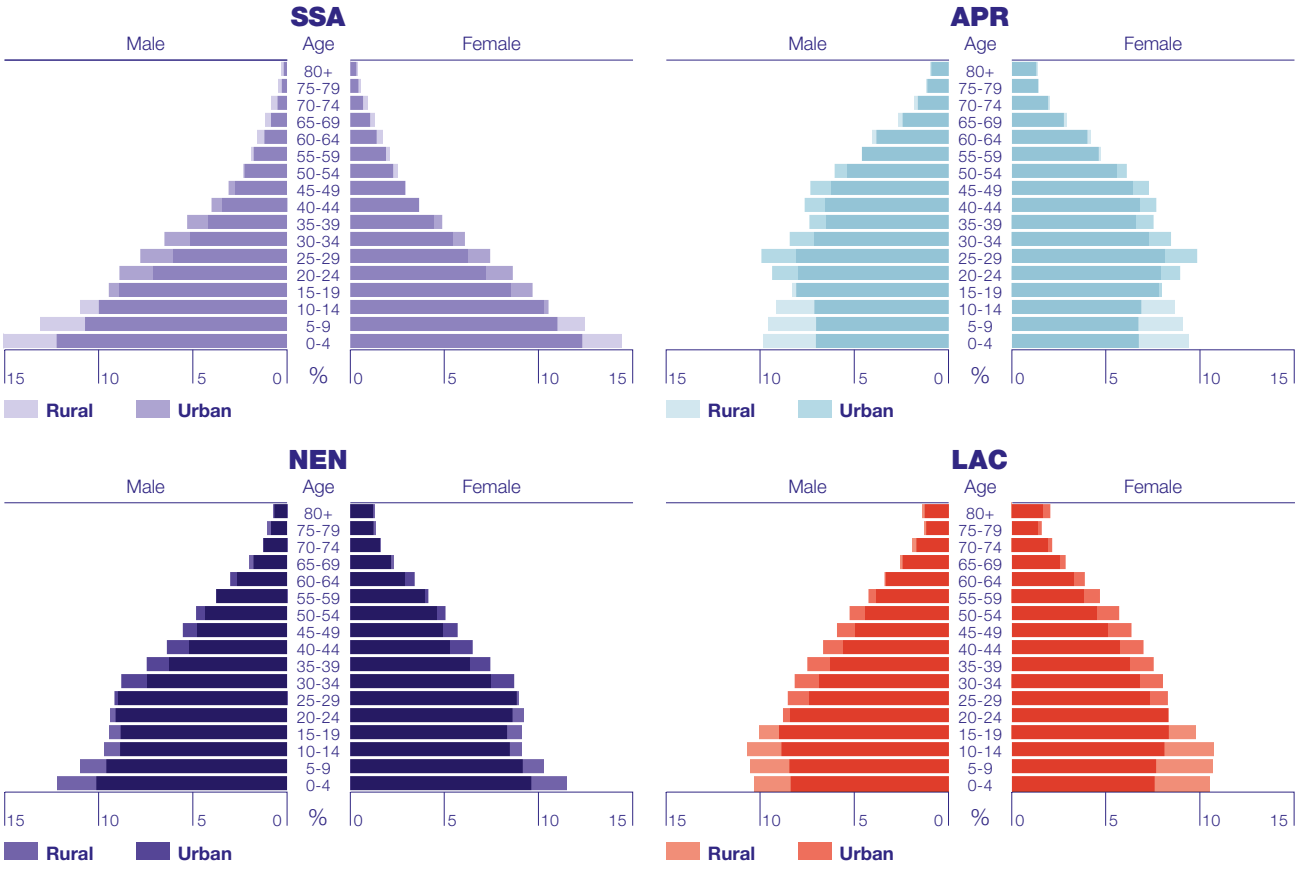
FIGURES 1.1 and **1.2** indicate that Africa is now in the midst of this dynamic. Population pyramids (see **FIGURE 1.1**) show that while Asia and the Pacific, Latin America

1 The term "developing countries" is used to refer to low-income countries, lower-middle-income countries and upper-middle income countries, as defined by the World Bank.

2 Youth is defined differently in different countries. In order to ensure comparability, this report employs the United Nations definition of youth as people between the ages of 15 and 24 (see paragraph 19 of the annex to the report of the Secretary-General on the International Youth Year, A/40/256, 1985). In recognition of the fact that the concept of youth is a social construct, at times quantitative information whose scope exceeds the bounds of this age group is provided.

FIGURE 1.1 Unique among continents, Africa's population pyramid rests on a massive base of young people

Rural and urban populations, by age group and continent

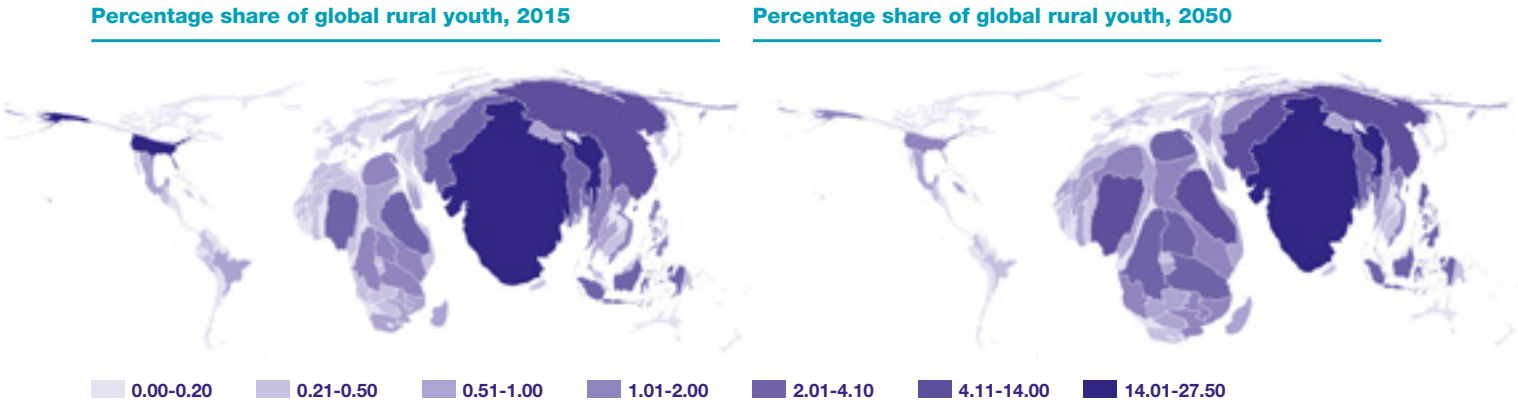


Notes: SSA: sub-Saharan Africa; APR: Asia and the Pacific; NEN: Near East, North Africa, Europe and Central Asia; LAC: Latin America and the Caribbean.
Source: United Nations Department of Economic and Social Affairs, *Urban and rural population by age and sex*, 2014; Stecklov and Menashe-Oren (2018).

and the Caribbean and, to a lesser extent, the Near East and North Africa are beginning to see declines in the share of young people in their populations, sub-Saharan Africa's population pyramid has a massive base of young people. This base is even larger in rural areas of the continent than it is in urban areas. As a result of this immense youth base and the persistently slow pace of declines in fertility, the absolute number of youth in Africa is projected to continue growing far more rapidly than in the rest of the world, driving a huge increase in Africa's share of the world's rural youth over the next 30 years (see **FIGURE 1.2**). Today, 65 per cent of the world's rural youth live in Asia and the Pacific and 20 per cent live in Africa (shown in the left panel of **FIGURE 1.2**), but Africa's share is projected to rise to 37 per cent by 2050, while Asia and the Pacific's will fall to 50 per cent.

The second driver of concern about developing-country youth is the transformative technological change of unprecedented speed that is now being generated by the advancing wave of digital technology. This dynamic is driving rapid social and economic change and penetrating every aspect of people's lives. While this digital revolution is opening up

FIGURE 1.2 A disproportionate share of rural youth today are in Asia, but Africa's share is projected to rise rapidly



Note: This map is an equal-area cartogram (also known as a density-equalizing map) of the share of global rural youth, by country. The cartogram resizes each country according to its share of the global rural youth population. The seven different colours shown on the map differentiate the various categories of countries according to their shares. The projected increase in Africa's share of rural youth by 2050 is represented by the larger size of that continent relative to the others.
Source: Authors' calculations using the Gastner-Newman method (2004) based on spatially disaggregated population data for 2015 and projections for 2050 from the United Nations Department of Economic and Social Affairs. The rural youth projections are created by applying the projected share of the rural population to the total projected youth population. This is based on the assumption that age structures in rural and urban areas will remain the same. Potential deviations from this assumption are not expected to have a noticeable effect on overall trends in rural youth populations across regions.

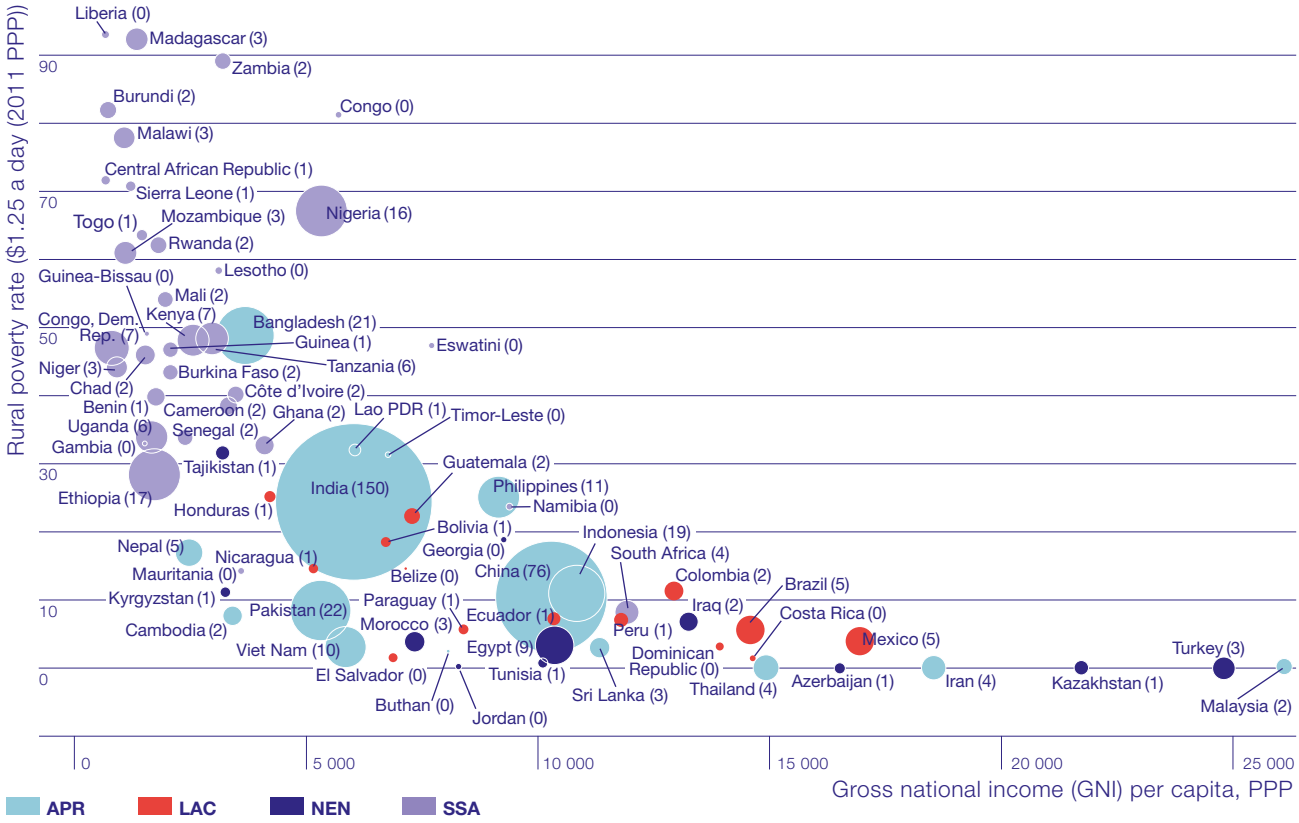
new, undreamed-of opportunities, it is also closing down more traditional paths of rural development (World Bank, 2019) and creating a great deal of uncertainty among decision makers about how to respond to these changes.

This digital revolution, combined with strong economic growth in developing countries over the past 20 years, is one of the factors behind the third main source of concern about developing-country youth: young people's rapidly rising aspirations in terms of economic advancement and having a say in their societies' decisions. The defining characteristic of the digital revolution is a massive decline in the cost of information and the consequent massive increase in access to the information that is embedded in ideas, images, values, and goods and services from around the world. Despite considerable economic progress, the rising aspirations of young people may be outpacing the expansion of their economic and social opportunities (World Bank, 2019). These rising aspirations, and the potentially negative social and political outcomes of a failure to meet those aspirations, underscore the need for action on the part of policymakers.

The *Rural Development Report 2019* focuses on rural youth, who make up around half of the total youth population in developing countries if rural is defined by administrative delineations of rural and urban (UNDESA 2014 and 2017). This number rises to 778 million if we consider all youth except those living in densely populated urban areas. Three additional facts should be borne in mind in this connection. First, as shown in **FIGURE 1.1**, in all developing countries, young people make up a larger share of the rural population than of the urban population, and youth issues are therefore especially relevant in rural areas. Second, although the world's two biggest youth populations are in China, an upper-middle-income country, and India, a lower-middle-income country, the majority of countries with large rural youth populations are low-income nations with high poverty rates (see **FIGURE 1.3**). Most of these countries are in sub-Saharan Africa and Asia, where the large percentage of the population composed of young people, the large number of young people in absolute terms and widespread poverty pose formidable challenges for countries that want to invest in a better future for their citizens at a time of great transition.

FIGURE 1.3 The majority of countries with large youth populations have high rural poverty rates

Number of rural youth (in millions)



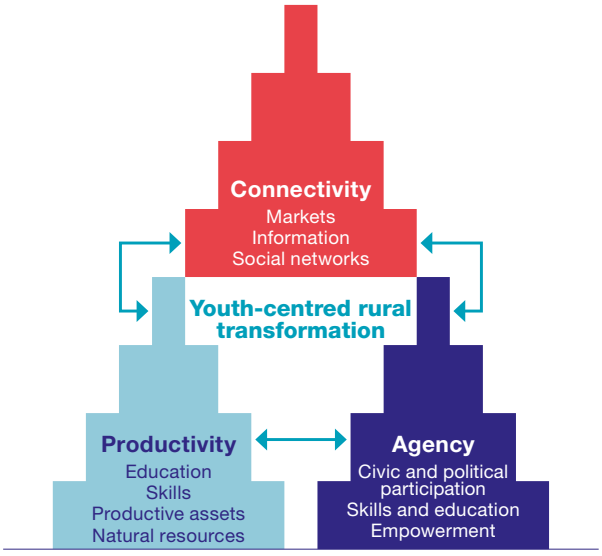
Notes: APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa; PPP: purchasing power parity.
Source: Authors' calculations based on *United Nations World Population Prospects: The 2017 Revision*. The dataset covers 75 low- and middle-income countries (based on the World Bank definitions of these categories and data for 2018). The numbers in parentheses represent millions of rural youth in each country. A zero signifies that the rural youth population is less than 1 million.

Three foundations for rural youth development: productivity, connectivity and agency

Youth-inclusive policies and investments for encouraging rural transformation should be based on the three foundations of rural development: productivity, connectivity and agency. These are the cornerstones of well-being for all individuals and societies. The fact that young people are transitioning into a life that should incorporate these foundational elements – that they are striving to *become* productive and connected individuals who are in charge of their own futures – makes these elements an essential consideration when thinking about rural youth development.

Each of these core elements needs to be taken into consideration because each one reinforces the others. Focusing on just one of them will be less effective than focusing on all three (see **FIGURE 1.4**). Social, political, economic, educational and psychological connections allow young people to accumulate resources and deploy them in ways that increase their productivity and incomes while also generating value for society. Creating these connections requires agency, having a measure of control over one's decisions and trajectory in life. Connectivity and agency will make a greater contribution to productivity in an enabling

FIGURE 1.4 Foundations of rural youth development



Source: Authors.

environment that supports and rewards youth initiative through effective policies and institutions and that provides young people with health care, education and infrastructure. An effective rural youth policy and investment agenda includes a broad set of the actions that are necessary in order to promote the development of a population of rural youth who are productive, connected and in charge of their futures.

Productive

The productivity of rural young people is central to their well-being and to the broader development and prosperity of society. "A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker", as Paul Krugman noted in *The Age of Diminished Expectations* (Krugman, 1994). Productivity depends on the quality of the environment that people work in and on the level of people's skills and learning. Learning is more than schooling, as discussed in the *World Development Report 2018: Learning to realize education's promise*. Learning can be improved if governments make it a priority and take heed of the evidence, which indicates that all stakeholders in the educational ecosystem need to be aligned in order for the system as a whole to work for learners (World Bank, 2018). Supporting improved learning is particularly important in the case of rural youth, especially young rural women, who tend to lag behind the rest of the population. Better learning outcomes among rural youth embedded in a supportive environment will play a direct role in boosting their productivity and will also improve their sense of agency, thereby feeding into a virtuous spiral of improving welfare (see, for example, Brady et al., 2007).

Connected

Connectivity – to people, markets, services, ideas and information – creates opportunities for rural youth to become more fully integrated into their transforming economies, which increases their productivity. For instance, rural areas that are better connected to markets through information flows and good transport infrastructure offer more opportunities for commercializing products and services. There is a great deal of potential for shortening the distances between rural areas and their markets by increasing both physical links (infrastructure) and digital connectivity (mobile technology) in many developing countries. In sub-Saharan Africa, for example, almost half the young population lives in the most remote and least connected areas (according to WorldPop project data). Greater connectivity also offers young people a way to build and strengthen their social and human capital, develop skills and boost their self-confidence, thus enhancing their sense of agency and increasing their productivity.

In charge

In order to become more productive and connected, young people in rural areas must have the power to make decisions in their own best interest. While agency is important for everyone, it is especially critical for the successful inclusion of youth in the rural transformation

process, since rural youth tend to be excluded more than urban youth or adults are (Trivelli and Morel, 2018). The rapid pace of change today, while providing opportunities to enhance agency, can also be challenging for rural youth, especially for those young people who are facing multiple layers of exclusion. For example, young rural women's sense of agency cannot be developed only by increasing their resources and social positions, their voice and aspirations, because social norms that constrain them will also need to be addressed by changing the attitudes and expectations of their family and society (Van den Broeck and Kilic, 2018; Doss et al., 2018). Poor infrastructure and educational systems and weak sociopolitical structures and institutions can also impede the development of agency.

In context

Individual characteristics clearly influence young people's productivity, connectivity and agency. Yet the pay-offs for these characteristics, and the set of characteristics that young people need, depend on the context in which they operate. In particular, there are two aspects that require special attention. The first is the overlapping national, local and family settings in which youth live, learn and work. The intersection of these settings – the level of transformation attained by the national economy and society, the potential productivity and connectivity of the particular area they live in and the capacities of their families – will largely determine the opportunities available to rural youth. The second aspect has to do with the fact that rural youth must contend with a rate of change and with types of changes that are dramatically different from what previous generations experienced. In addition, it is important to identify the particular constraints associated with young people's transition from youth and dependence to adulthood and greater independence. An effective rural youth policy and investment agenda must take into account the particular overlapping settings in which a young person lives and how the dynamics of global change are playing out in those settings. Given the transitional nature of youth, it is also important to determine if and in what particular ways the challenges for them, and therefore the policies and programmes needed to help them, may differ from those faced by the general rural population.

Structural and rural transformation on a national scale

A country's level of structural and rural transformation sets the basic parameters of the opportunities open to rural youth by broadly determining the material welfare that rural youth might realistically attain and the structure of opportunities through which they can do so. Generally speaking, as the structural transformation process proceeds, people become more likely to earn their incomes outside the agricultural sector by engaging in wage labour or entering into other formal employment relationships rather than through self-employment. This process is both driven by, and contributes to, rising productivity and incomes throughout the economy (IFAD, 2016).

Rural transformation can be thought of as the manifestation in rural areas of the economy's broader structural transformation. Rising incomes lead consumers to spend an ever greater share of their income on non-food items, even as the absolute level of spending on food increases (Engel, 1857). This leads to two kinds of shifts in labour. First, it drives a sectoral shift as labour moves off the farm and into a wide range of non-farm activities, although many are still linked to agriculture (IFAD, 2016). Rural areas become more productive, income levels rise and a more diversified set of farm and non-farm economic activities takes shape. Meanwhile, agricultural activities begin to make greater

use of external inputs, produce more for the market and achieve dramatic increases in farm productivity.

In the initial stages of the transformation process, the sectoral shift in labour is mostly a shift from self-employment on the farm to self-employment off the farm in informal household enterprises. But as incomes rise and markets expand, firms begin to appear that are capable of hiring people and putting them to work while also bringing in new technology (capital) and expanding their production. By boosting overall productivity, these firms become key agents in the rural transformation process. And this drives the second kind of shift in labour: a functional shift from self-employment to wage employment. This transformation of employment is a fundamental characteristic of structural and rural transformation (IFAD, 2016). The overall transformation of the rural economy affects rural youth by influencing both the level and kinds of opportunities available to them and by helping to determine the types of financially viable policies that will be assigned the highest priority.

Structural transformation is frequently measured by the share of non-agricultural activity in GDP, while rural transformation can be measured by agricultural value added per worker (IFAD, 2016). Countries experience different combinations of structural and rural transformation as their overall transformation process proceeds (see **FIGURE 1.5**). In some – ones with larger natural endowments and public policies that support agriculture – the rural transformation process will progress faster than their overall structural transformation will (countries in quadrant III). Others have achieved a broader structural transformation even while retaining a small-scale, labour-intensive farm sector that yields relatively low returns (quadrant I). Some countries have transformed in both dimensions (quadrant II) and, in still others, a structural or rural transformation process has barely begun (quadrant IV). The patterns of structural and rural transformation depicted in **FIGURE 1.5** have implications for the kind of rural youth policies and programmes that countries can or should pursue.

Many different patterns tend to correlate strongly with the level of transformation that a country has achieved (see chapter 2 for further information on these patterns). Broadly speaking, in the more highly transformed economies (quadrant II), non-farm income represents a larger share of total income, the farm sector has higher productivity rates, and average income levels are higher. Their populations are made up, on average, of a smaller proportion of youth (18 per cent) and a larger proportion of urban residents (65 per cent), with the result that the proportion of rural youth is much smaller (7 per cent). They also tend to have stronger institutions and more fiscal resources per capita. As a result, even the very populous countries in this category, such as Indonesia, have more resources to invest in youth, a greater capacity for programming and using those resources and fewer rural youth to focus them on. If the political will is there, these countries can often make great strides by investing in their rural youth. Most of these countries are in Latin America and the Caribbean and in the Near East and North Africa; Namibia, South Africa and Eswatini are the exceptional cases in sub-Saharan Africa.

The situation is quite different for the least transformed economies (quadrant IV), which have rural poverty rates of around 50 per cent and average per capita incomes only one tenth as high as those found in more highly transformed economies. Most of these countries are in sub-Saharan Africa, although some are in Asia and the Pacific. They have the largest share of young people overall (20 per cent of the population) and in rural areas (13 per cent). They also have the fewest resources on which to draw and the weakest investment capacities (see chapter 2).

FIGURE 1.5 Structural and rural transformation processes at the national level set the basic parameters for rural youth opportunities

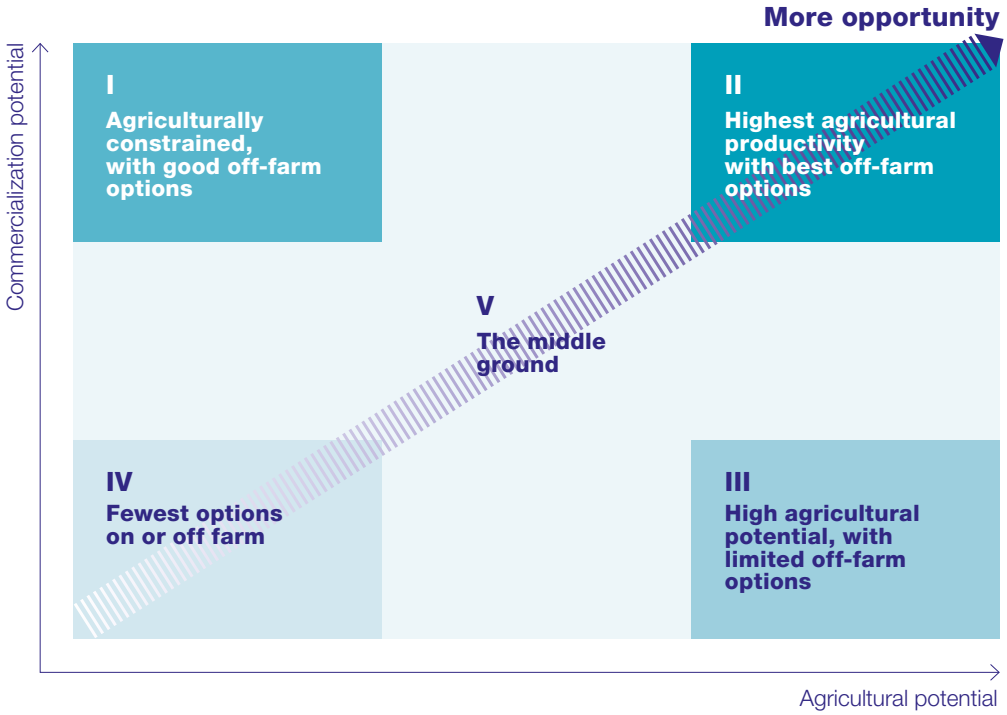
Country transformation typology

Notes: APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa. Countries are classified as having attained a relatively high degree of rural transformation if their value added per worker exceeds the sample median (US$1,592) and as having attained a relatively high degree of structural transformation if the share of non-agricultural value added exceeds the sample mean (80%). The sample consists of 85 low- and middle-income countries as defined by the World Bank (2018).
Source: Authors.

The rural opportunity space

Within a country, rural youth opportunities vary by location. While an economy may be experiencing structural and rural transformations at the national level, not all areas within the country will be transforming in the same way or to the same extent. In rural areas, opportunities are determined to a large extent by market access (access to agricultural output, input, labour, finance and other markets), which is what, in turn, determines the area's *commercialization potential*, and by the nature of the natural resource base, which is what determines, in turn, the *potential agricultural productivity* of the area. Both of these factors have strong spatial dimensions (Wiggins and Proctor, 2001; Ripoll et al., 2017) and, together, these two factors form the *rural opportunity space* (ROS) (see **FIGURE 1.6**), which influences what opportunities and challenges rural youth will be confronted with, subject to the characteristics of the broader national economy. This economic geography framework shapes what is possible at the highest level, independent of local context, specific social norms or any individual preferences (Sumberg et al., 2018).

FIGURE 1.6 The commercialization potential and agricultural potential of a particular rural area condition the opportunities that the national setting provides for rural youth



Source: Authors.

Commercialization potential increases with connectivity to cities and their markets and with the potential for private sector investment, all of which are of crucial importance in extending opportunities to rural youth. Promisingly, rural towns and secondary cities closer to rural areas are growing faster than more distant capital cities (Roberts and Hohman, 2014). This expansion of secondary cities and towns has had a greater impact in terms of poverty reduction than has the growth of large metropolitan areas because these smaller cities and towns offer more accessible migration destinations for rural residents. Such urban centres are playing an increasingly central role in the welfare of rural areas (Tanzania is one example) and in the generation of more inclusive growth patterns (as in India) (Christiaensen, De Weerdt and Todo, 2013; Gibson et al., 2017).

Yet physical and virtual connections between these urban centres and rural areas are often poor. The formation of many of the requisite connections depends both on the availability of public goods, such as improved roads and communications infrastructure, and on private investment. Increasingly, the private sector is providing mobile technology, post-harvest facilities, processing capacity and agricultural inputs in rural areas. Public goods such as improved roads, well-designed legal and regulatory systems and an educated populace are, however, prerequisites for large-scale private investments. A more productive economy and better spatial connections within it will increase the pay-off on investments that specifically target rural youth. Sustained growth and structural transformation are typically associated with a public commitment to investment in health, education and infrastructure (World Bank, 2018). As a result, in countries that are making these

investments, their more educated and skilled young people will have more opportunities for productively employing their skills and more agency in seizing those opportunities.

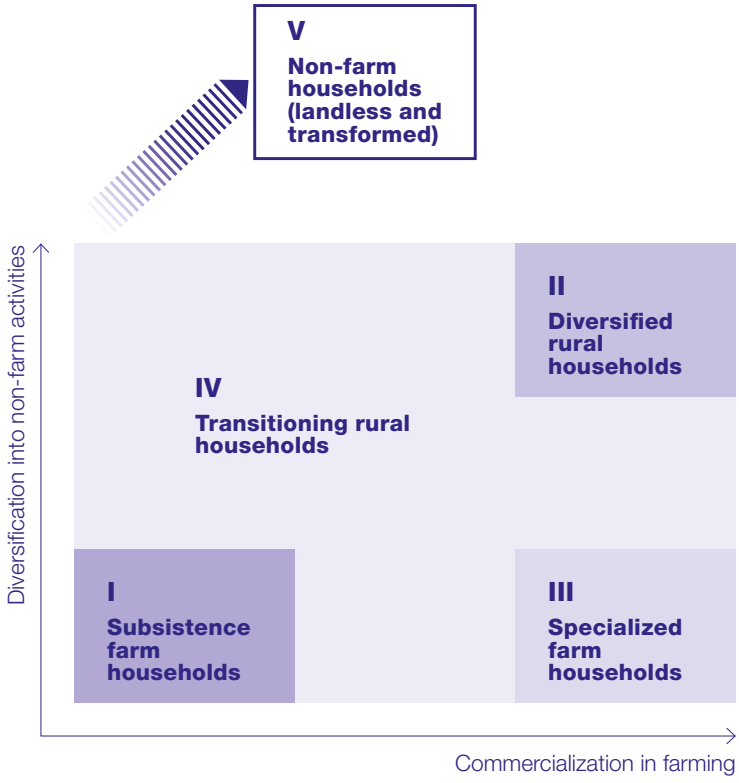
Household transformation categories

The vast majority of rural youth in developing countries live as dependants in large families. Thus, in addition to the level of transformation of the national economy and the rural opportunity space in which young people reside, the characteristics of their households also help to shape their opportunities and challenges.

Rural households, like nations, achieve differing levels and mixes of transformation depending on their livelihoods (see **FIGURE 1.7**). Connections to a wide range of markets are required to permit these transformations. Households can diversify beyond the farm to add non-farm income to their portfolio (vertical axis), and some of them may become fully *transformed non-farming households*. Alternatively, they can invest in their farms in order to make them more productive and market-oriented, with some of them then becoming *specialized farmers* who make a large share of their sales directly from their farming operations and have little off-farm income. Households may also undergo transformations in both dimensions, intensifying their farming activities and selling much of their output while, at the same time, adding more non-farm income to their portfolios. Those moving the furthest in each of these directions become dynamic, economically *diversified rural households* (top right cell). Others continue to operate as *subsistence farmers*, who have little non-farm income and sell very little of their farms' output (bottom left cell). Finally, perhaps the most challenged group of all are the households with no land and few other resources, which remain *landless non-farmers*. Households that have partially diversified without moving into any of these groups are referred to as *transitioning rural households*.

The types of households in which rural youth live frame the opportunities that they are actually able to grasp out of the set of opportunities that their national and rural settings present to them. The types of household categories are likely to be influenced by the country's level of transformation and by the space in which the household is located. More highly transformed countries provide more opportunities for economic diversification and for the intensification of farming activities by persons who choose to remain in that sector. Such countries should therefore have larger shares of transformed non-farmers, diversified rural households and (perhaps) specialized farmers in their rural areas. By the same token, more connected rural spaces (those shown to have a high commercialization potential in **FIGURE 1.6**) are likely to have more diversified and fully

FIGURE 1.7 Household transformation categories



Source: Authors.

transformed non-farming households, while less connected settings (those with a lower degree of commercialization potential as shown in **FIGURE 1.6**) are likely to feature more subsistence households.[3] These empirical patterns will be examined in chapter 2 using spatially explicit global data on age- and gender-differentiated population distribution and agricultural potential.

Constraints in the transition from dependence to independence

While the opportunities open to rural youth depend on the national, rural and household settings in which young people reside, creating broad opportunities in these settings does not guarantee that rural youth will be able to seize them. To do that, rural youth who are transitioning from dependence to independence must have the capacity and skills, financial resources and key assets, such as land, that will empower them to seek out opportunities. This is doubly true of young rural women, who often face cultural and social constraints that prevent them from pursuing the capacities and connections they need in order to take charge of their own lives. Rural youth from ethnic minorities may similarly face more severe constraints than members of the dominant ethnic group.

Capacities and skills

Rural youth need capacities and skills that their parents did not need. The nature of work is changing more rapidly than ever before, creating a demand for new sets of skills. Rural transformation, particularly of the agrifood system (AFS), is extending the reach of markets into new areas, linking rural and urban areas and fuelling competition for the output of farms of all sizes. The digital revolution is making access to information increasingly central to success both on and off the farm. Young people need to understand the modes of communication that are embedded in these applications and to know how to search for information and create networks of contacts.

Rapid technological progress is reshaping the future of work by increasing the demand for the types of human capabilities that cannot be fully mimicked by machines (World Bank, 2019). In order to adapt to this complexity, educational institutions have to teach not only basic technical skills but also the advanced cognitive skills (critical thinking and problem-solving) and non-cognitive skills needed for successful youth employment (Fox, 2018; Filmer and Fox, 2014; World Bank, 2019). Non-cognitive skills include personality traits such as conscientiousness, extraversion, agreeableness and openness to experience. Evidence is emerging on the importance of these skills in both wage employment and self-employment and in the establishment of microenterprises in rural and other settings in developing countries. These skills, together with cognitive skills, are strongly linked to employment and earning outcomes (Heckman and Kautz, 2013).

Land

Rural youth who wish to become farmers have always faced the challenge of gaining access to land, but three factors now make this challenge even more formidable. First, owing to rapid population growth, particularly in sub-Saharan Africa, much of the rural population now lives in more densely settled areas. Land is becoming less available, and plots are becoming smaller and more fragmented. Second, parents are living longer and are continuing to farm

3 "Subsistence" is used in a relative sense, since truly subsistence farmers, who are not engaged in markets on or off the farm, are rare.

their land for a longer time, and they are therefore less likely to transfer land to their children when the time comes for their children to enter the labour force. Young people who want to farm can thus either work their parents' land, thereby delaying their transition to independence and their attainment of greater decision-making authority, or, if their finances and local rental markets allow, they can rent land. If they do rent, issues of land quality and security of tenure become a concern (Yeboah et al., 2018). Third, the rapid rise of medium-scale commercial farms, driven by the expansion of markets made possible by the structural and rural transformation processes, is increasing the competition for land. Such farms control an estimated 30 to 50 per cent of farmland in Ghana, Kenya, Malawi and Zambia (Jayne et al., 2016). As a consequence, young people are significantly less likely than adults to own land, and they are even less likely to hold sole title to it.

Finance

Access to finance is more important in today's transforming economies, and rural youth face greater challenges in this regard. The profitability of farming increasingly depends on the use of purchased inputs, especially when producing for dynamic markets, such as fresh produce for growing cities. Access to credit can ease entry into such markets (Tschirley et al., 2017). Entry into off-farm self-employment also requires some initial investment, and operations can thus be greatly enhanced by access to credit. Young people in rural areas have fewer contacts and assets and so have more difficulty gaining access to formal financial services. They also make up a disproportionate share of the unbanked population worldwide (Gasparri and Muñoz, 2018).

There is some good news on the financing front, however. Digital financial services such as mobile money accounts are facilitating the financial inclusion of rural adults and youth alike (Clement, 2018; Sekabira and Qaim, 2017). Mobile money account penetration is similar in rural and urban areas, and youth have higher uptake rates than adults (Aker, 2018; Gasparri and Muñoz, 2018). These dynamics are creating opportunities for the development of comprehensive programmes to address the financing constraints experienced by rural youth (see **BOX 1.2** for a case study on this subject).

BOX 1.2 IFAD's Rural Youth Economic Empowerment Programme

In 2016, IFAD completed the execution of its Rural Youth Economic Empowerment Programme (RYEEP). This large-scale regional grant programme focused on promoting rural employment through the creation and financing of small youth-led enterprises in **Egypt, Morocco, Tunisia and Yemen.** Its aim was to increase the employment and self-employment of young people aged 15-35 in those four countries by testing out new models of inclusive financial services for rural youth. Overall, the programme provided savings services to 20,543 young programme participants, credit to 7,292 young people and non-financial support services (financial education training) to almost 14,252 young persons. These financial services helped participants to launch 5,830 businesses. In addition, the project helped rural finance institutions to better understand the rural youth market and to develop financial products that were adapted to the needs of rural youth.

In Egypt, RYEEP supported Plan Egypt's project aimed at modifying its existing village savings and loan association financial model to meet the needs of rural young people. This involved the formation of youth savings groups (YSGs) that offered both savings and credit services, together with life-skills-based entrepreneurship and financial literacy training. By the pilot project's end, it had adapted the YSG methodology for rural youth, developed a youth-specific, life-skills-focused entrepreneurship curriculum and launched the programme in rural areas in three of the country's governorates. The project created important opportunities for learning how non-financial services can be integrated directly into a financial service and how informal savings groups can be linked to formal financial institutions.

In Morocco, through RYEEP, the Al Barid Bank (ABB) began to adapt its new youth "Savings for Tomorrow" product [Tawfir al Ghad] (TAG) to better suit the needs of its young rural clientele. TAG is an innovative savings product that offers subscribers a free ATM card and no transaction fees and that requires them to maintain no more than a US$5 minimum balance. Through this project, ABB developed a customized financial literacy training course for rural youth, experimented with full-service mobile vans as a means of expanding outreach and began working on linking up TAG clients with microfinance institutions (MFIs). By the project's end, ABB had supplied 6,277 rural youth with its TAG product, provided 3,000 with financial literacy training and linked 30 TAG account holders to microfinance lending services. Lessons learned from the pilot indicate that, when working with savings products, a combination of numerous access points and product modifications can increase inclusion.

In Tunisia, RYEEP supported Microcred, a newly established greenfield MFI, in the design and development of Irada, the first small enterprise start-up loan developed specifically for youth in Tunisia, with a focus on rural areas. In order to strengthen these clients' non-financial skills, Microcred partnered with Tunisian NGOs to design and deliver a package of business development services in conjunction with the Irada product. In addition, Microcred delivered expansion loans to young rural clients. By the project's end, Microcred had conducted extensive market research on the youth market, developed and piloted the Irada and Expansion loan products with 54 young people, and designed and piloted a business management training and coaching programme for another 71. The pilot provided insights into financial product design and the challenges involved in seeking to target the youth population before an institution has established a rural presence.

Gender

Young rural women face gender-based constraints that may impede them from gaining the agency they need to prosper in the new economy. Economic and technological change often outpace changes in social norms. A young woman in a rural village in Bolivia, Cambodia or Niger with a smartphone has access to information, ideas and possibilities that her parents could not have dreamed of, but social norms may prevent her – more than they would a young man – from acting on these possibilities. There is a greater need than ever before for investments that will ease the triple burden of being young, being a woman and living in a rural area.

The unprecedented rate and nature of change

Many of the changes accompanying structural and rural transformations are unfolding at a faster pace or in different ways than in the past. These demographic, economic, environmental and technological changes are simultaneously opening up some opportunities and closing off others for rural youth. Investments, policies and programmes centred on rural youth need to take these differences into account.

Demographic change

Three types of demographic changes are rapidly altering the national and rural context in developing countries. The first is urbanization. Since 1990, urban populations in low- and middle-income countries have risen from 33 per cent of those countries' total populations to 50 per cent (UNDESA, 2017b); this has important implications for the level and structure of opportunities and challenges within an economy. For example, urban areas now account for over half of the total domestic market for food in developing countries. Market links to urban areas are central to the income and food security of smallholder farmers.

The second demographic change, which is playing out primarily in the least transformed countries, is a rapid increase in rural population density. Even as countries have urbanized, rural populations have more than doubled since 1950 in developing countries and increased nearly fourfold in the least developed nations (UNDESA, 2017b). Urbanization, including the rise of secondary cities, and rural densification and the growth of rural towns are reducing the literal and figurative distance between urban and rural areas and are giving rise to increasing opportunities in rural areas thanks to improved connections to markets.

The third major demographic process that is now under way is the demographic transition, which yields a *demographic dividend* that could potentially have long-lasting positive effects in terms of growth and transformation. The process has reached quite an advanced stage across all developing regions with the exception of sub-Saharan Africa, where the number of young people is growing very rapidly in absolute terms and is even growing modestly relative to the total population. The challenge for countries in this region is to find a way to respond to the needs of the most rapidly growing youth populations in the world even though they have the fewest fiscal resources with which to do so. The very slow pace of their demographic transition may also hold back their long-term growth.

Digital revolution

Today's rural youth are the first generation of young people whose entire working lives will be permeated by digital technology. By reducing the cost of information and massively

increasing its availability, this technology has dramatically sped up the pace and altered the nature of change. This is having two main effects. On the one hand, the rise of the "intelligent automation" made possible by digital technology is speeding and broadening the advance of automation while partially closing off previous avenues, such as labour-intensive manufacturing, used by rural youth to escape poverty (World Bank, 2018; McMillan et. al., 2016).

Yet the penetration of digital technology into all economic and social spaces is also opening up new opportunities for rural youth to increase their connectivity, their productivity and their agency. An explosion in mobile finance in some of the world's poorest countries (see chapter 8) is lowering the barriers that have persistently blocked access to formal credit for young people, people residing in rural areas and women. In agriculture, new technology-enabled farming and marketing practices are increasing productivity and opening up new ways of engaging with markets (Bello, Bello and Saidu, 2015; Noorani, 2015). The rapidly emerging "Internet of things" is paving the way for precision agriculture, the use of drones to monitor livestock and crops, and "smart greenhouses" that can automate many crop husbandry activities (Ravindra, 2018). For rural youth to profit from these new technologies, investments are needed to expand broadband and physical infrastructure in rural areas and equip youth with the cognitive and non-cognitive skills they will need to see the promise of these technologies, anticipate their perils (e.g. overindebtedness as a consequence of the temptations of easy-access mobile finance) and use them to their benefit.

The digital revolution does not play out in a vacuum. While its impacts on the changing nature of work and competition are being felt globally as they work their way through the various markets, the *opportunities* that the revolution engenders are in proportion to the *fundamental capabilities* existing in a given location. Rural youth living in countries and spaces in which fundamental capabilities are lacking – poor physical infrastructure and educational systems, socio-political structures that impede agency and empowerment, and weak public and civil society institutions – will have a much harder time capitalizing upon the opportunities that this revolution offers. How governments respond to this situation will determine whether the revolution widens or bridges the rural/urban digital divide.

Climate change

Rural youth are likely to be worse off than the rest of the population in terms of all three of the elements that determine the extent of vulnerability to climate change: exposure, sensitivity and adaptive capacity (Füssel, 2017; Füssel and Klein, 2006; IPCC, 2014). The latest report of the Intergovernmental Panel on Climate Change warns that the world has little time left to take action to avert the devastating impacts of climate change (IPCC, 2018). Addressing the challenges faced by rural youth becomes even more difficult in this context.

Countries with large youth populations are typically poor and still heavily agricultural: almost all countries that depend on agriculture for more than 20 per cent of their GDP have youth populations equivalent to more than 19 per cent of their total population and low levels of structural and rural transformation. Many of the countries most affected by climate change are also in the midst of post-conflict or fragile situations, making it all the more pressing to address the youth inclusion challenge.

Climate model projections indicate that many developing countries will be subject to increasing exposure to the impacts of climate change, such as extreme heat

stress and generally more extreme weather events. This will have an especially strong impact on rural youth, who have limited options outside of the farm sector. Sensitivity to climate shocks rises in step with a lack of social capital, skills and community participation (Brooks, 2003; Adger, 2003). Finally, adaptive capacity depends on access to resources such as land, credit and insurance, again putting rural youth at a disadvantage (Gasparri and Muñoz, 2018; Yeboah et al., 2018).

Thinking differently about investing in rural youth

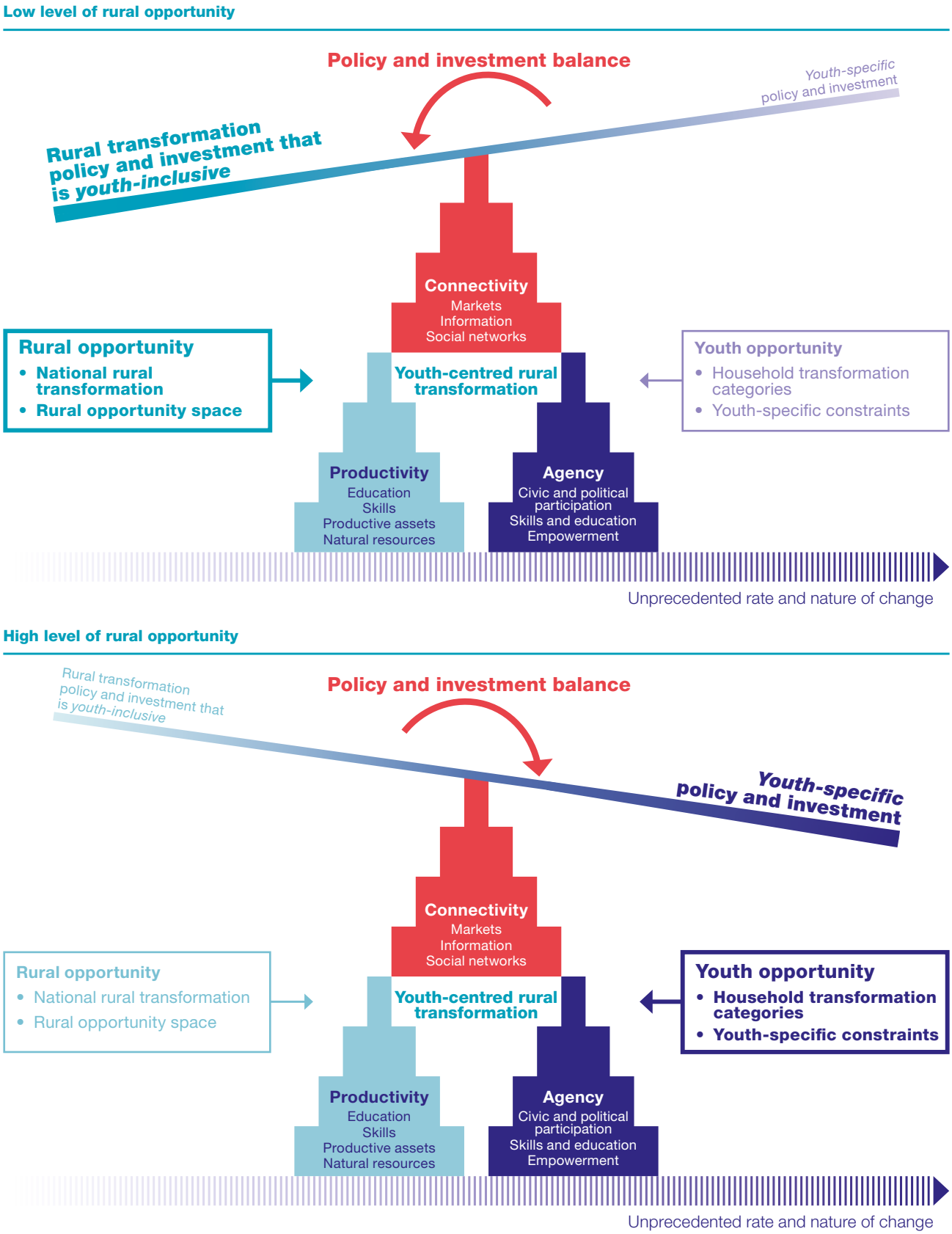
In the rush to help rural youth navigate today's rapidly changing environment so that they may become productive and connected individuals in charge of their own future, decision makers may be at risk of making two mistakes. One would be to continue to invest in old solutions that are no longer effective in this changing environment. An example could be old-style vocational/technical programmes that do not prepare youth for the new structure of economic opportunities and challenges that is taking shape. It would also be an error to focus too much on investments specific to youth in countries and spaces where the primary problem is a broad-ranging lack of economic opportunity that would undermine the effectiveness of these kinds of targeted investments.

The challenge is to strike the right balance between investments that promote rural opportunity in general and those that focus specifically on youth opportunity (see **FIGURE 1.8**). The right balance between these different kinds of interventions will depend on the extent of the different types of transformation processes and opportunities to be found in a given space. Thus, in places with low levels of transformation and limited opportunities, youth-specific approaches that do not address broader issues are unlikely to yield sustainable results. Therefore, if rural opportunity is limited by a low level of rural transformation in a country or by a limited commercial potential, policies and investments will need to focus primarily on promoting rural transformation. This entails improving productivity, connectivity and agency among the rural population as a whole in order to foster rural transformation and thus expand the opportunities for all.

On the other hand, when rural opportunities already exist because a region has reached a high level of rural transformation and has strong commercial potential, then policies and investments may seek to address constraints that are specific to young people and their families. Investing in broader rural development policy initiatives will continue to play an important role in these contexts as a means of supporting and enhancing ongoing transformations, but *youth-specific investments* can complement these wider-ranging efforts and help to overcome specific constraints that are impeding the inclusion of the young population.

The unprecedented rate and nature of change and the dynamics that surround rural youth are such that their opportunities and constraints are changing so rapidly that policymakers should consider which investments are required now to alleviate rural youth constraints and which ones will be required later on in order to generate medium-term pay-offs (Filmer and Fox, 2014). The *Rural Development Report 2019* focuses on helping decision makers at all levels think clearly about how to strike this balance.

FIGURE 1.8 Balancing investments that promote widespread rural opportunity and those that focus specifically on youth opportunity



Source: Authors.

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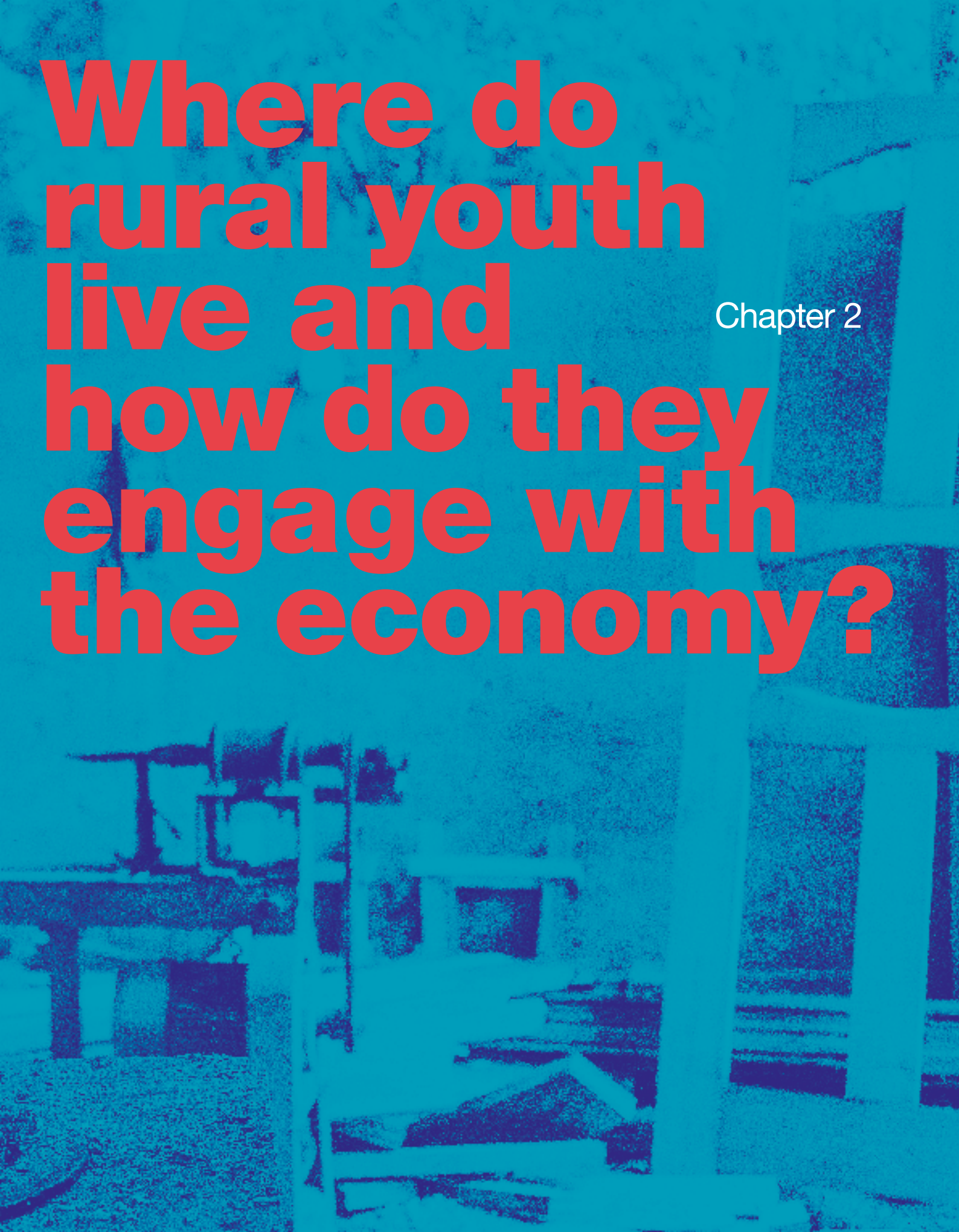
Where do rural youth live and how do they engage with the economy?

Chapter 2



Devising ways of investing in rural youth that will enable them to become productive, connected and in charge of their own future requires thinking differently about them, their families, and the countries and particular geographies they live in. This chapter uses multiple data sources, together with the typologies outlined in chapter 1, to answer a set of critical questions: Where do rural youth live around the world and within countries? What level of transformation has been reached by their countries and how does this influence the appropriate mix of policies for broad rural development versus youth-specific policies and those countries' policy design and implementation capacities? How do the agricultural potential and potential connectivity of the spaces in which rural youth live shape the opportunities that their households can offer them and, hence, their welfare?[4]

This chapter first presents the results of an analysis based on the country transformation typology outlined in chapter 1 and summarizes the key characteristics of countries in each of the quadrants, including their percentage shares of developing-country youth and rural youth. The discussion then moves on to a new classification of rural opportunity spaces which is then crossed with the country typology. This cross-mapping of geographic spaces and their varying potentials with country transformation types and their varying needs and capacities generates new insights about how policy priorities need to be adjusted across different types of countries.

To ensure the comparability of the analysis across countries, the chapter takes a new approach to defining rural spaces. Recently available high-resolution geospatial global databases are used to group the population of all developing countries into four equal population groups (quartiles) based on the population density of the spaces in which they live. For the purposes of this report, the most densely settled 25 per cent of the population is classified as urban. The other three groups – peri-urban, semi-rural and rural areas (see Jones et. al., 2016) – are jointly referred to as rural. (For further details on these definitions and an explanation of how they compare with the varying administrative definitions across countries, see **BOX 2.1**.)

These three rural subcategories are then used as a proxy for commercial potential in the rural opportunity space (ROS). These data are then paired with data from the Enhanced Vegetation Index (EVI) as a measurement of agricultural potential in order to define the full ROS. (See **BOX 2.2** for details on these variables and those used in the country typology and household classification.) Data for the country typology and ROS cover all developing countries, while data for the household transformation categories come from 13 nationally representative surveys across Africa, Latin America, and Asia and the Pacific.

4 See box 2.2 for further information on the data sources used to operationalize the three typologies outlined in chapter 1. The typologies used for this analysis are: (1) a country typology based on levels of structural and rural transformation; (2) a classification of rural opportunity spaces based on spatially defined commercialization and agricultural potentials; and (3) a classification of different categories of household transformation levels defined on the basis of their main sources of livelihood.

BOX 2.1 A globally comparable definition of rural spaces

Administrative definitions of "rural" and "urban" suffer from two weaknesses from an analytical standpoint. First, they differ across countries, which reduces the usefulness of cross-country comparisons. Second, the definitions are based on a simple dichotomy that may be increasingly at odds with how people actually live. The characteristics associated with urban and rural areas or populations have become increasingly blurred by rapid urbanization, greater rural population densities and the economic transformation of rural areas, which has driven an increase in "urban" characteristics such as a reliance on markets. The growing presence of small and secondary towns plays an important role in connecting the two geographic dimensions and catalysing commercialization opportunities. Moreover, the transformation of agrifood systems has augmented the economic linkages between rural areas and cities, heightening the need for a more fluid spatial definition. One approach for adapting to these shifts involves an increasing use of the concept of "peri-urban areas" (Simon et al., 2006; Simon, 2008). These areas can be viewed as rural locations that have "become more urban in character" (Webster, 2002) and as sites where households pursue a wider range of income-generating activities while still located in what appear to be "largely rural landscapes" (Lerner and Eakin, 2010).

Instead of applying administrative definitions of the terms "rural" and "urban", this report uses population densities to create a rural-urban continuum (see Jones et. al., 2016, for a recent application). This approach ensures comparability across regions and countries and creates a more precise spatial picture of the economic and social characteristics of individuals and households. The WorldPop project has generated spatially explicit age- and gender-differentiated population data at the level of 1 km x 1 km grids. These grids were ordered from least to most dense, and population figures were then successively summed to create four groups (quartiles) having populations of equal size ranging from the least to the most densely settled areas. The least dense quartile represents rural areas, while the most dense quartile represents urban areas. In between are the semi-rural (second quartile) and peri-urban (third quartile) areas. The bottom three population density quartiles (rural, semi-rural and peri-urban categories) are referred to as rural (i.e. non-urban) in this report.[5] The resulting thresholds and other indicators for each group are shown in the following table.

Rural gradient thresholds defined using spatial population data and shares of administratively defined rural and urban areas

	Population density threshold (1,000 people per square km)	Average population density	Administratively defined as rural* (%)	Administratively defined as urban* (%)
Rural	<=0.16	0.05	90.95	9.05
Semi-rural	>0.16 and <=0.58	0.32	68.90	31.10
Peri-urban	>0.58 and <=2.39	1.20	63.67	36.33
Urban	>2.39	7.56	10.90	89.10

* The shares of areas that are administratively defined as rural or urban are based on household data from 13 low- and middle-income countries in Asia and the Pacific (APR), Latin America and the Caribbean (LAC) and sub-Saharan Africa (SSA). They indicate how much of the geospatially defined categories on the rural-urban gradient fall into administratively defined rural vs. urban locations. For example, 9.05 per cent of the geospatially defined rural areas are in administratively defined urban areas.

5 For further information, see annex B.

BOX 2.2 Data and definitions used for the three typologies

The country typology and the rural opportunity space (ROS) typology both use globally comparable data in their definitions. The **country typology** uses data from the World Development Indicators for a sample of 85 low- and middle-income countries in Asia and the Pacific (APR), sub-Saharan Africa (SSA), the Near East, North Africa, Central Asia and Europe (NEN), and Latin America and the Caribbean (LAC). Structural transformation (ST) (shown on the vertical axis) is proxied by non-agriculture value added as a percentage of GDP, while rural transformation (RT) (shown on the horizontal axis) uses agricultural value added per worker in constant 2010 US dollars. Quadrants are defined based on mean ST (80 per cent) and median RT (US$1,530). The median (instead of the mean) is applied to RT because, unlike the ST indicator, its indicator has no upper bound, making the mean a poor measure of the central trend.

For the **rural opportunity space**, the three rural gradations (rural, semi-rural, and peri-urban) from BOX 2.1 are used to proxy for commercialization potential; this is then paired with the Enhanced Vegetation Index (EVI) to proxy for agricultural potential. Commercialization potential (on the vertical axis) increases in step with connectivity to people, markets, ideas and information. It also influences what incentives there are for rural youth to invest in productivity, both on and off the farm. Commercialization potential can be measured by a combination of road density, average time to the nearest market or population density, with each of these measurements posing its own challenges (Sebastian, 2007; Sumberg et al., 2018). Here, spatially explicit global population density data are used to proxy for commercialization potential based on the assumption that it correlates with agricultural commercialization, off-farm diversification and market density (Bilsborrow, 1987; Wood, 1974).

Vegetation indices derived from remote sensing data are increasingly being used as a proxy for agroecological potential as a means of facilitating global comparisons (Jaafar and Ahmad, 2015; Chivasa, Mutanga and Biradar, 2017). The EVI, excluding built- and forested areas, is used here to measure the influence of geography on the potential for productivity in farming (see FIGURE 2.4). Global EVI data covering all developing countries at a 250 m x 250 m resolution were aggregated to the 1 km level to match the resolution of the population data. These grids were ordered from the lowest to the highest potential, and all the area measurements were summed to create three groups (terciles) of an equal total land area, ordered from the lowest to the highest agricultural production potential.

Household transformation categories are based on data from representative household income/expenditure surveys taken in 13 countries in the SSA, LAC and APR regions covering a total of 767,008 individuals in 188,996 households. Two variables were computed for each household: non-farm income as a share of total income, which represents the household's level of rural transformation, and farm sales as a share of total farm income, which serves as a measure of their level of agricultural transformation. These data are also used to create individual-level indicators of school-to-work transitions as well as full-time equivalents (FTEs) of time devoted to six sectoral and functional employment categories for use in analysing youth engagement in the economy. For the full list of surveys in each country and further information on the methodology and data used, see annex C: Definition of variables and methodology.

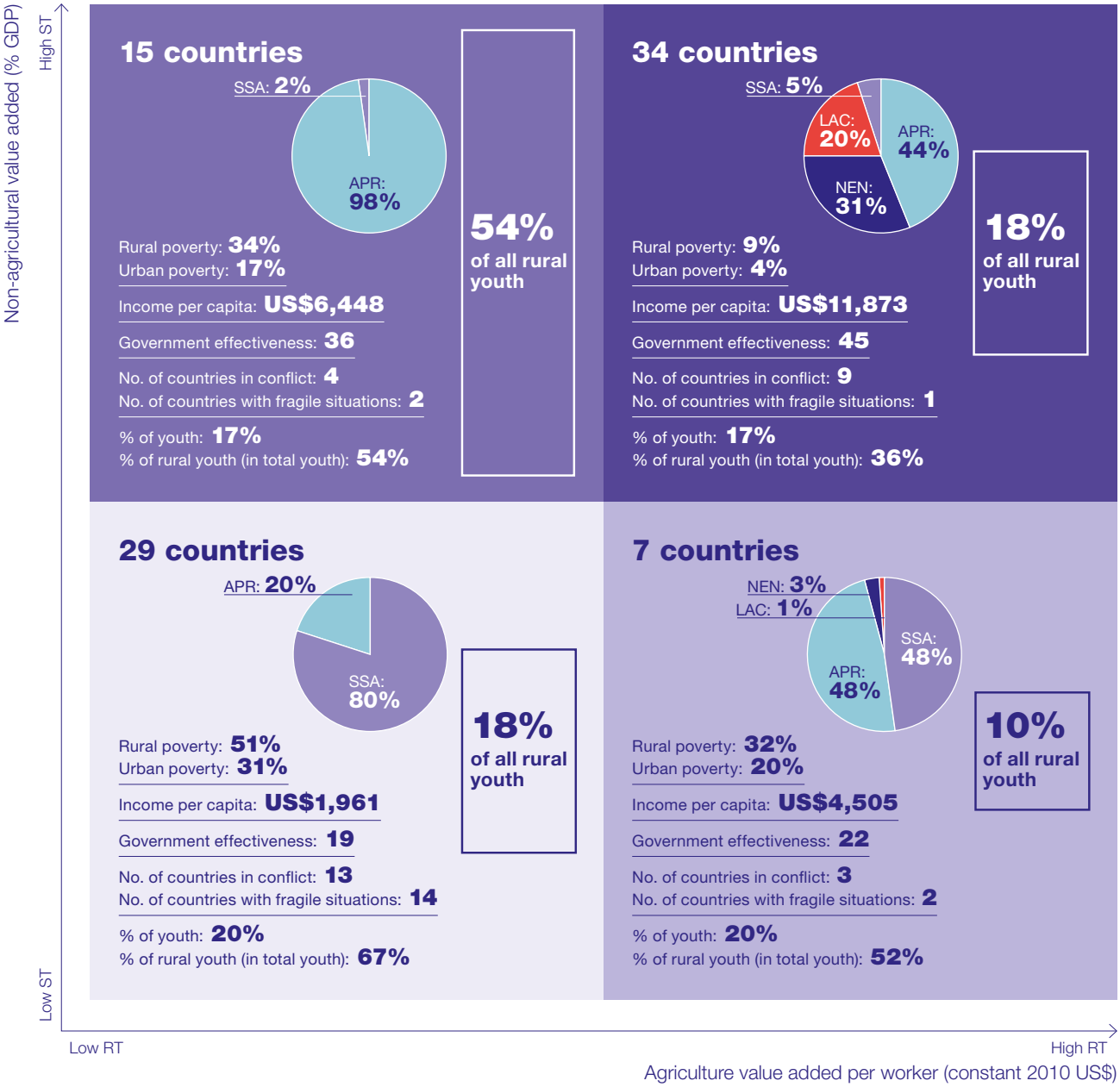
The challenges for rural youth in the least transformed countries are extremely daunting, yet these nations account for only about 20 per cent of the developing world's rural youth population

Globally, about 20 per cent of the developing world's rural youth live in its most transformed countries, another 20 per cent in the least transformed, and the rest in countries with mixed levels of transformation

Overall, 72 per cent of the developing world's rural youth live in countries with low levels of rural transformation (i.e. agriculture value added per worker below US$1,530) (see the two left-hand quadrants in FIGURE 2.1). Young people have a tough time escaping poverty by engaging in farming activities in these countries; most will earn a better living by transitioning into other sectors. Among those countries with low levels of rural transformation, some have achieved relatively high levels of structural transformation (the top-left quadrant), which means that the non-farm sector comprises a larger share (more than 80 per cent) of the total economy, and people therefore have more off-farm livelihood opportunities. These countries, nearly all of which are in Asia and the Pacific (APR), are home to over half of the developing world's rural youth population, with India and China being the dominant countries in this group. In countries with low levels of transformation in

FIGURE 2.1 Where do the world's rural youth live?

Distribution of rural youth and selected country characteristics, by country transformation category



Notes and sources: Regional percentages in the pie charts represent the distribution of rural youth among regions by ST-RT group. Eighty-five low- and middle-income countries based on the World Bank definitions and 2018 data are classified into ST-RT groups using the median value of agricultural value added per worker for RT (1,529 US$) and the mean value of the share of non-agricultural value added in GDP for ST (80%), in line with IFAD's 2016 definitions. Poverty is measured as the poverty headcount ratio at $1.25 a day (2011 PPP) (% of population) (*source:* World Development Indicators, World Bank). Income is measured as gross national income (GNI) per capita, at purchasing power parity (PPP) (constant 2011 international dollars) (*source:* World Development Indicators, World Bank). Government effectiveness is measured as the percentile rank in the Worldwide Governance Indicators (*source:* World Development Indicators, World Bank). The definition of a country in conflict is taken from the Uppsala Conflict Data Programme/Peace Research Institute Oslo Armed Conflict Dataset (*source:* Baliki et al., 2018). The definition of fragility is based on the Harmonized List of Fragile Situations for fiscal year 2019, World Bank, 2015 (*source:* United Nations Department of Peace Operations (DPO), African Union and European Union websites).

both dimensions (the bottom-left quadrant), farming offers low returns and opportunities off the farm are limited. These countries host 18 per cent of the developing world's rural youth population, 80 per cent of whom reside in sub-Saharan Africa (SSA).

The remaining 28 per cent of rural youth reside in countries that have achieved relatively high levels of rural transformation (the two right-hand quadrants in the figure) and offer more attractive opportunities in farming. And nearly two thirds (18 per cent overall) of the members of this group are found in countries that have transformed in both dimensions (top-right quadrant). Rural youth in this category enjoy, on average, the best economic opportunities and have a good chance to earn enough either on or off the farm to position themselves well above the poverty line. Although these countries have a very low rural poverty rate of only 9 per cent, they nonetheless have small pockets of persistent rural poverty that have proven difficult to tackle.

Finally, the smallest group, with 10 per cent of the developing-country rural youth population, is composed of countries where farming can yield relatively attractive returns but where there are limited off-farm opportunities (the bottom-right quadrant). These countries may seem similar to the other mixed group (high structural transformation but low rural transformation, shown in the top-left quadrant) in terms of poverty levels, but average incomes are lower and their rural youth population is quite likely to encounter a different structure of opportunities. Whereas farming or related off-farm sectors of the agrifood system (AFS)[6] can offer good opportunities in countries with higher levels of rural transformation, off-farm opportunities are more likely to absorb rural youth in countries with higher levels of structural transformation but lower levels of rural transformation. In fact, 90 per cent of rural youth in Nigeria (a country with a low level of structural transformation and a high level of rural transformation) are engaged in AFS work, while, in Bangladesh (with a high level of structural transformation but a low level of rural transformation), almost half of the young population works outside the AFS. On average, rural youth in Nigeria allocate 70 per cent of the time that they spend working to their households' farms, whereas, in Bangladesh, non-AFS wage activities predominate (34 per cent of FTEs).

The "youth bulge" is found in the least transformed – and poorest – countries, particularly in Africa.[7] **FIGURE 2.2** shows the past and projected shares of overall and rural youth in the developing world by structural and rural transformation levels (top) and region (bottom). Three patterns stand out. First, the share of youth in today's total population is rising only in the least transformed countries. In all other country types, the percentage share of youth is either flat, as in countries with low structural but high rural transformation levels, or declining. In countries with the highest level of transformation, this share is declining rapidly. While today more than 50 per cent of rural youth live in countries with high structural and low rural transformation levels (as documented in **FIGURE 2.1**), the global distribution is likely to be dominated by the least transformed countries in the coming decades.

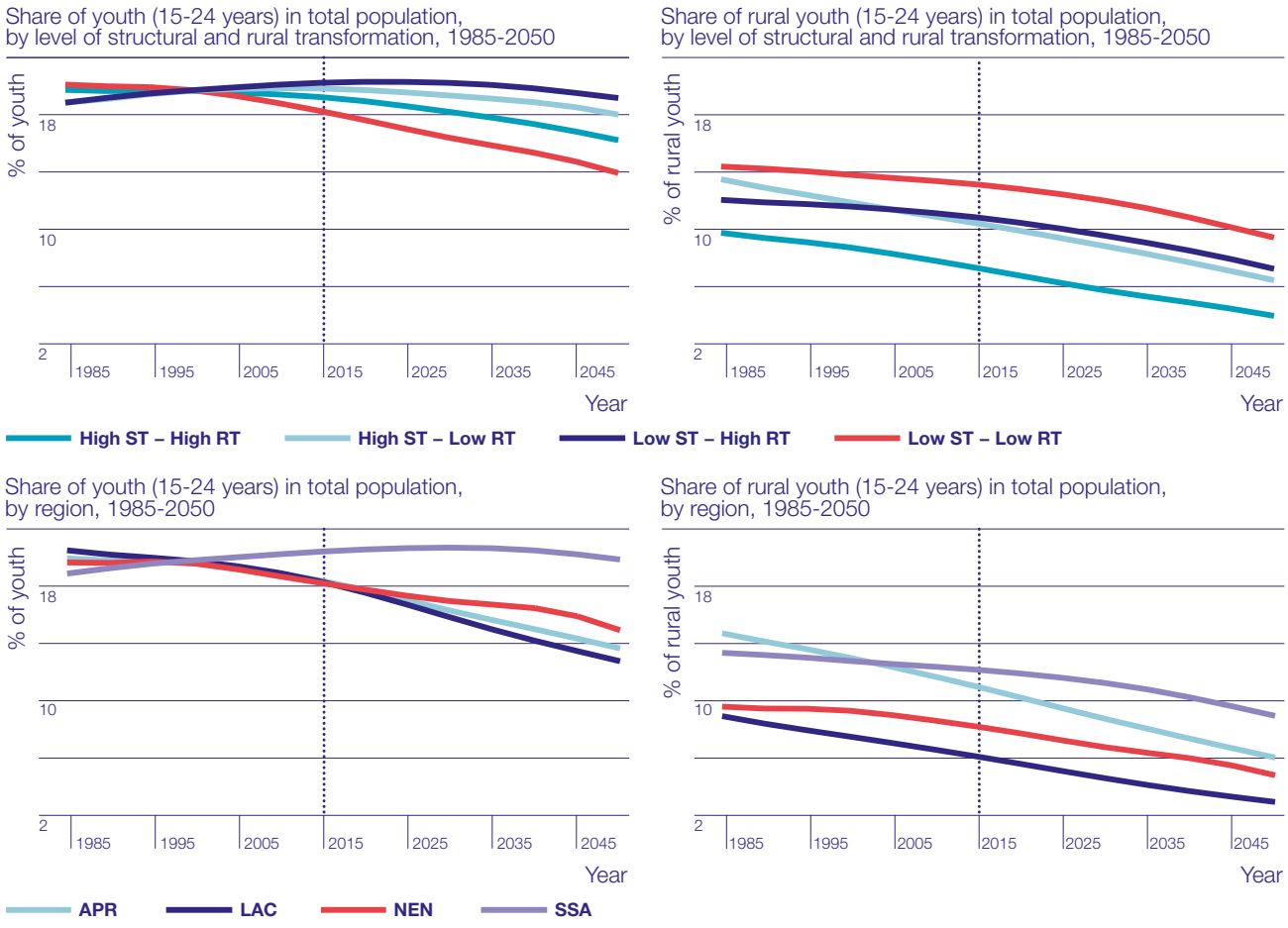
Second, the regional pattern is stark: the share of the youth population is rising in Africa and is projected to continue to do so (although at a moderate pace) over the next

6 The agrifood system, or AFS, is defined as the set of supply chains stretching from the supply of inputs and services, through production on the farm and all the post-farm activities that result in the retailing of food (including food prepared and consumed away from home) and other agricultural commodities to consumers. Work outside the AFS is any work taking place outside of these agriculturally related value chains.

7 The youth bulge is the common phenomenon for a period early in the demographic transition during which children and youth comprise a large and increasing share of the total population. This occurs when the decline in fertility has not yet caught up with the decline in mortality.

FIGURE 2.2 The share of young people in the total population is projected to decrease everywhere except in the least transformed countries and in sub-Saharan Africa. The relative size of the rural youth population is decreasing everywhere

Projected population share of youth and rural youth up to 2050, by country transformation level and region

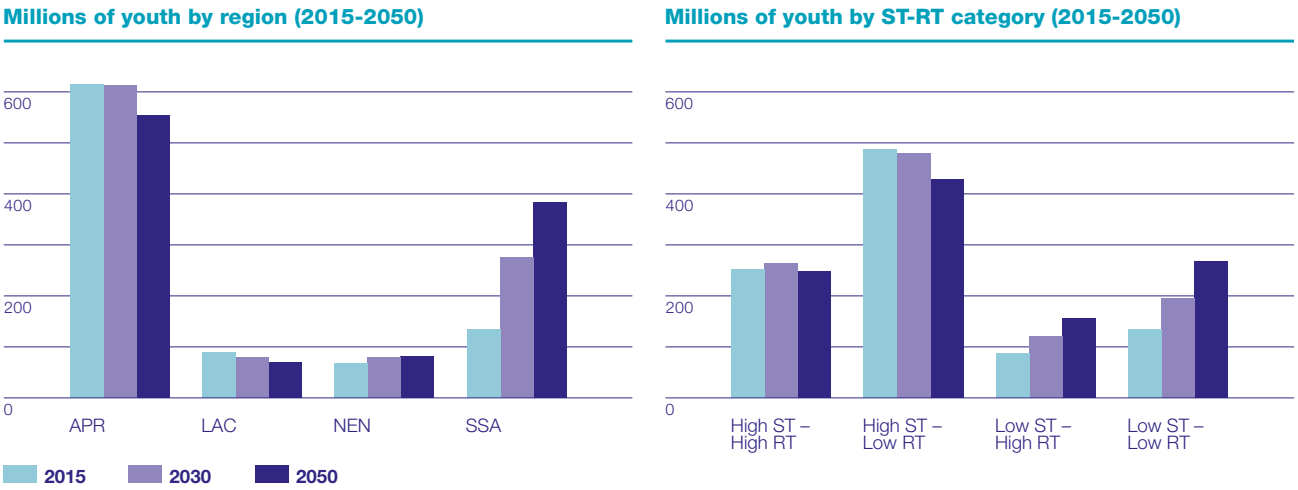


Notes: SSA: sub-Saharan Africa; APR: Asia and the Pacific; NEN: Near East, North Africa, Europe and Central Asia; LAC: Latin America and the Caribbean.
Source: Authors' calculations based on United Nations *World Population Prospects: The 2017 Revision*. The dataset covers 85 low- and middle-income countries (based on the World Bank definitions and data for 2018).

20 years. In every other region, these shares are falling rapidly. By 2050, the shares of the total population represented by the youth population in the rest of the world are projected to amount to around 13 to 15 per cent, while in Africa that share will have fallen only slightly from its current level of 20 per cent. Essentially, the developing world's youth bulge is an African youth bulge.

Third, in every region and in every country category, the share of *rural* youth in the population is declining sharply. Here, too, Africa lags behind the rest of the world, but even Africa's share of rural youth is projected to fall below 10 per cent by 2050. The widening differential between the overall percentages of young people in the population and of rural youth in the population derives from the urbanization process, which is a global phenomenon: as measured on the basis of administrative divisions, the urban population expanded from 33 per cent of the total population in 1990 to around 50 per cent in 2015.

FIGURE 2.3 The number of young people is growing rapidly in sub-Saharan Africa and in countries with low levels of structural transformation



Note: ST: structural transformation; RT: rural transformation; APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa. The dataset covers 85 low- and middle-income countries (based on the World Bank definitions of these categories and data for 2018).
Source: Authors' calculations based on *United Nations World Population Prospects: The 2017 Revision*.

Yet what captures the attention of policymakers is not the relative size of the youth population, but rather its absolute size, as the total number of young people will rise significantly in some countries and regions in the coming years (see **FIGURE 2.3**). The total number of young people is projected to climb very little or even decrease by 2030 in both sets of countries with high structural transformation levels. In both types of countries with low structural transformation levels (both those with low and those with high levels of rural transformation), on the other hand, the number of young people is projected to rise. The rate of increase is particularly striking in the case of the least transformed countries, where projections point to a doubling of the number of young people by 2050 (from about 135 million in 2015 to about 270 million by 2050). Once again, the regional pattern is stark: the number of young people in Africa is projected to more than double by 2050, while it is projected to climb around 20 per cent in NEN and to decrease in other regions.

Africa's slow demographic transition is driving these patterns and is posing major challenges for future growth and transformation on the continent

The demographic transition (see chapter 5) starts with declines in mortality that lead to rapid population growth and younger age structures; it then continues with declines in fertility that lead, over time, to an ageing population. A key determinant of a country's ability to grow and make needed investments in fundamental capabilities is the speed with which this transition occurs. Countries that transition rapidly and make the right investments can earn a "demographic dividend" of rising national savings that create the possibility of further investments in fundamental capabilities. Those that transition slowly struggle in this respect.[8]

8 See chapter 5 for a discussion on the second demographic dividend, which can be secured when populations start ageing if countries invest heavily in their fundamental capabilities during the period when the dependency ratio is low.

Slow transitions occur when the extent of fertility declines following the onset of reductions in mortality is small and takes longer to become evident. Countries experiencing slow transitions spend more time with high dependency ratios, meaning that the working-age population has to support a larger number of children and older adults. This has two implications. First, per capita income rises slowly. Second, structural and rural transformations proceed slowly. Rapidly growing populations (which means that the youth population is growing rapidly), low and slowly rising income levels, and the related scarcity of fiscal resources and consequently limited operational capacity of government all combine to impede the kinds of intensive, high-quality investments in education, technology and infrastructure that drive these transformations. This lack of sufficient high-quality investment during this critical stage can have long-term negative impacts on economic growth and poverty reduction. For example, high fertility rates in Nigeria (which had the third-highest number of new births in the world in 2018 (UNICEF, 2018)), are projected to lead to significantly lower income levels in 2100 than would be the case in a low-fertility scenario (Canning, Raja and Yazbeck, 2015).

The least transformed countries are also the most fragile

FIGURE 2.1 shows that civil conflict arises in all types of countries, as the share of countries experiencing conflict ranges from about 25 per cent among more structurally transformed countries (top two quadrants) to about 45 per cent among those that have undergone less of a transformation in this dimension (bottom two quadrants) (Baliki et al., 2018). Fragility, on the other hand, is heavily concentrated in the least transformed category, which accounts for 14 of the 19 fragile countries in the world.[9] The concentration of fragile States in this country category has to do with their very low rating in government capacity, which is a key element in the definition of fragility. Estimating the number of rural youth subject to these conditions of fragility and conflict is very difficult due to data issues. While conflict tends to be spatially concentrated and hence affects a small share of the population, fragility is a systemic problem reflecting an overall lack of capacity to address and contain conflict and to invest in rural transformation. Assuming that a country's fragile status impinges upon all rural (non-urban) youth, then around 50 million rural youth face limited livelihood opportunities as a result of this type of fragility. The multiple ways in which fragility and conflict influence rural youth opportunities and how these factors can be addressed are discussed in detail in the spotlight section entitled "Rural youth in fragile situations and conflict" near the end of this chapter (see also box 2.5 for an example).

The types of investments needed to support rural youth and the ability of governments to make these investments vary greatly across these country groups

The least transformed countries clearly are in the greatest need. They have the largest average overall share of the youth population (20 per cent), the lowest per capita incomes and the highest poverty rates (in excess of 50 per cent in rural areas).[10] Meanwhile, the most highly transformed countries have average per capita incomes above $10,000, poverty headcounts lower than 10 per cent in both rural and urban areas, and an average

9 Fragile States are States with little capacity or legitimacy and whose citizens are therefore vulnerable to a range of socio-political shocks. This report uses the World Bank's Harmonized List of Fragile Situations for fiscal year 2019.

10 Rural and urban poverty headcount ratios have been taken from the disaggregated measures commissioned by IFAD for the *Rural Development Report 2016* and are based on data from around 2010.

share of the youth population of only 17 per cent. Clearly, the need is greatest in the least transformed countries, which also have the lowest level of potential fiscal revenues for use in addressing those needs.

In general, a government's ability to use these funds effectively will also be greater in the most transformed countries. The Government Effectiveness Index measures "perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (Kaufmann et al., 2010, p. 3). These are indicative of a country's ability to invest effectively, including in its rural youth. The Index correlates primarily with the level of structural transformation, rather than rural transformation: countries in the two bottom quadrants of **FIGURE 2.1** exhibit nearly identical measurements of government effectiveness, which are much lower than those of the two groups at the top. Unsurprisingly, the most transformed countries rank highest on this index. This sharp distinction in government effectiveness based on the degree of structural, rather than rural, transformation likely stems from the fact that countries that have undergone little structural transformation have, by definition, relatively undiversified economies and thus have not developed the broader set of public sector capabilities needed to manage the types of more diversified economies found in more structurally transformed countries.[11]

An overwhelming proportion of the developing world's rural youth live in areas with relatively high population densities and a strong agroecological potential

The concept of a rural opportunity space (ROS) that was introduced in chapter 1 relates to the first two elements of the foundations of rural youth development, which are at the centre of this report: helping them to become *productive* and *connected* individuals who are in charge of their lives. Examining the spaces in which rural youth live reveals a compelling story (see **FIGURE 2.4**).

First, two out of every three members of the total 778 million non-urban youth population in developing countries live in the most agroecologically productive areas. Only 7 per cent live in areas with the lowest potential. This concentration of the rural population, and thus of rural youth, in the most productive areas is not surprising, as it reflects (especially in Africa) the historical movement of agriculture-dependent populations to the most productive and least disease-prone areas of the world. This spatial pattern suggests that agricultural potential per se is not a primary constraining factor for a majority of rural youth. If their farming productivity is low, then the reason lies in their lack of access to markets for inputs (especially water, improved seed and fertilizer) and markets for their output that would provide incentives to invest in increased productivity.

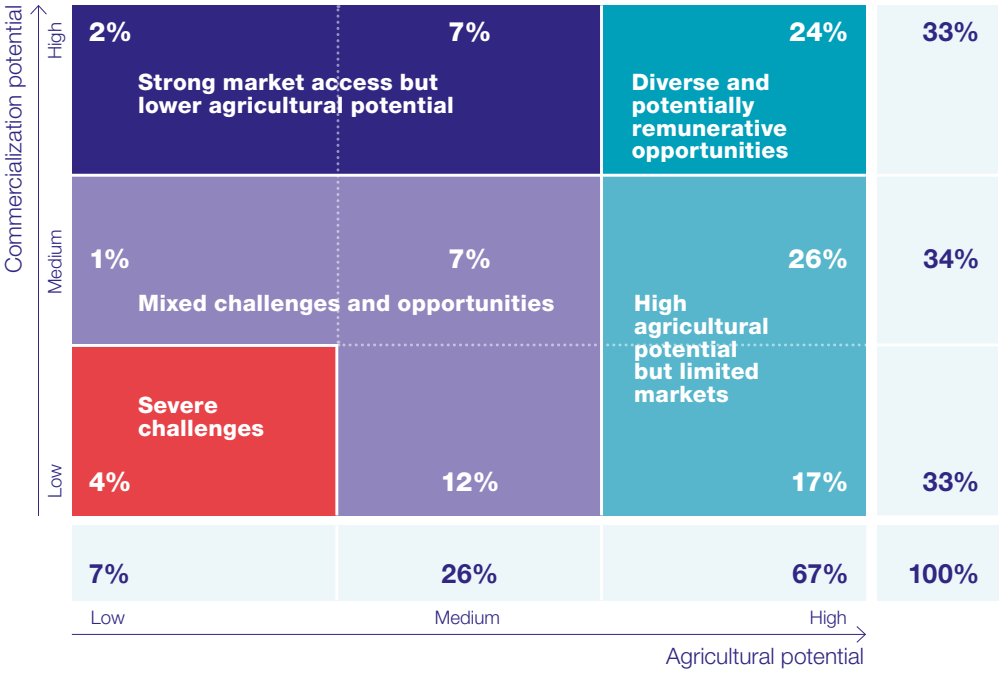
Second, the vast majority of rural youth live in relatively densely settled areas. The least connected one third of the non-urban population (the bottom row in **FIGURE 2.4**) occupy 92 per cent of the non-urban land area, while the remaining two thirds live on the other 8 per cent of non-urban land (not shown in the figure). This means that two thirds of the rural youth population live in areas that are, on average, *twenty-three times*[12] more densely populated than the least-connected one third. What this means is that the vast

11 Causation could also work in the opposite direction, with poor governance inhibiting the diversification of the economy. Exploration of this issue is beyond the scope of this chapter, however.

12 (0.67/0.08)/(0.33/0.92) = 23.3.

FIGURE 2.4 Two out of three rural youth in developing countries live in rural opportunity spaces with high agricultural potential

Modified rural opportunity space



Notes: Commercialization potential is defined using 2015 population density data for 85 low- and middle-income countries from the WorldPop project. All grids are ordered from least-to-most dense, and cut-offs are set to place 25 per cent of the population in each of four groups. The highest-density quartile is categorized as *urban*. The remaining three non-urban quartiles each hold one third of the *non-urban population* and define the three groups of the rural-urban gradient: rural, semi-rural and peri-urban. These labels represent the low, medium and high commercial potential categories on the vertical axis. Agricultural potential is defined using the Enhanced Vegetation Index (EVI) of the Moderate Resolution Imaging Spectroradiometer of the National Aeronautics and Space Administration (MODIS-NASA) for the same grids, ordered from lowest to highest. Each of the three groups (terciles) corresponds to one third of all *non-urban space* and together they represent the low, medium, and high agricultural potential categories on the horizontal axis.

majority of non-urban land in the developing world is very sparsely populated, while the vast majority of rural residents live in areas that are relatively densely populated.[13] The potential for connectivity – with markets, information, ideas and possibilities – is thus relatively high for many of the developing world's rural youth. If these young people are poorly connected and lack opportunities, then the reasons do not lie in the potential productivity and connectivity of the land and spaces that they occupy. Rather, they have to do with the level of transformation in the broader economy in which they live, the characteristics of the households in which they reside and constraints specific to youth and their individual characteristics.

The patterns identified above lend themselves to a classification of the rural opportunity space (ROS) based on five categories that capture the broad challenges and opportunities faced by developing countries' rural youth. **Around one quarter of all rural youth in developing countries live in areas that combine the highest degree of agroecological potential with the strongest potential connectivity** (top-right cell in **FIGURE 2.4**). **These youth will have *diverse and potentially remunerative opportunities*,**

13 Note that the great majority of these households are also classified as rural according to national administrative definitions (see box 2.2).

with the extent of those opportunities depending on the dynamism of the broader economy in which they reside. At the other extreme, 4 per cent of rural youth live in the least connected spaces with the lowest agroecological potential (bottom-left cell). They face *severe challenges*, again with the prospects of overcoming them depending in large measure on the broader economy in which they reside and the particular characteristics of the young people themselves and their families. Forty-three per cent of all rural youth live in spaces with a *high agricultural potential but limited access to markets,* while those in spaces with *strong market access but lower agricultural potential* represent only 9 per cent of the total. The remaining one fifth of rural youth have an opportunity space composed of *mixed challenges and opportunities*.

Combining the country transformation typology with the ROS classification provides a framework for establishing policy, investment and programmatic priorities for helping rural youth become productive, connected and in charge of their own futures (see **TABLE 2.1** and **FIGURE 2.5**). Asian countries and countries with mixed transformation profiles (HL/LH in the third column of the table), have the largest shares of most ROS categories for the simple reason that most rural youth live in these countries. The following patterns therefore focus not just on where rural youth in different ROS categories are found, but on

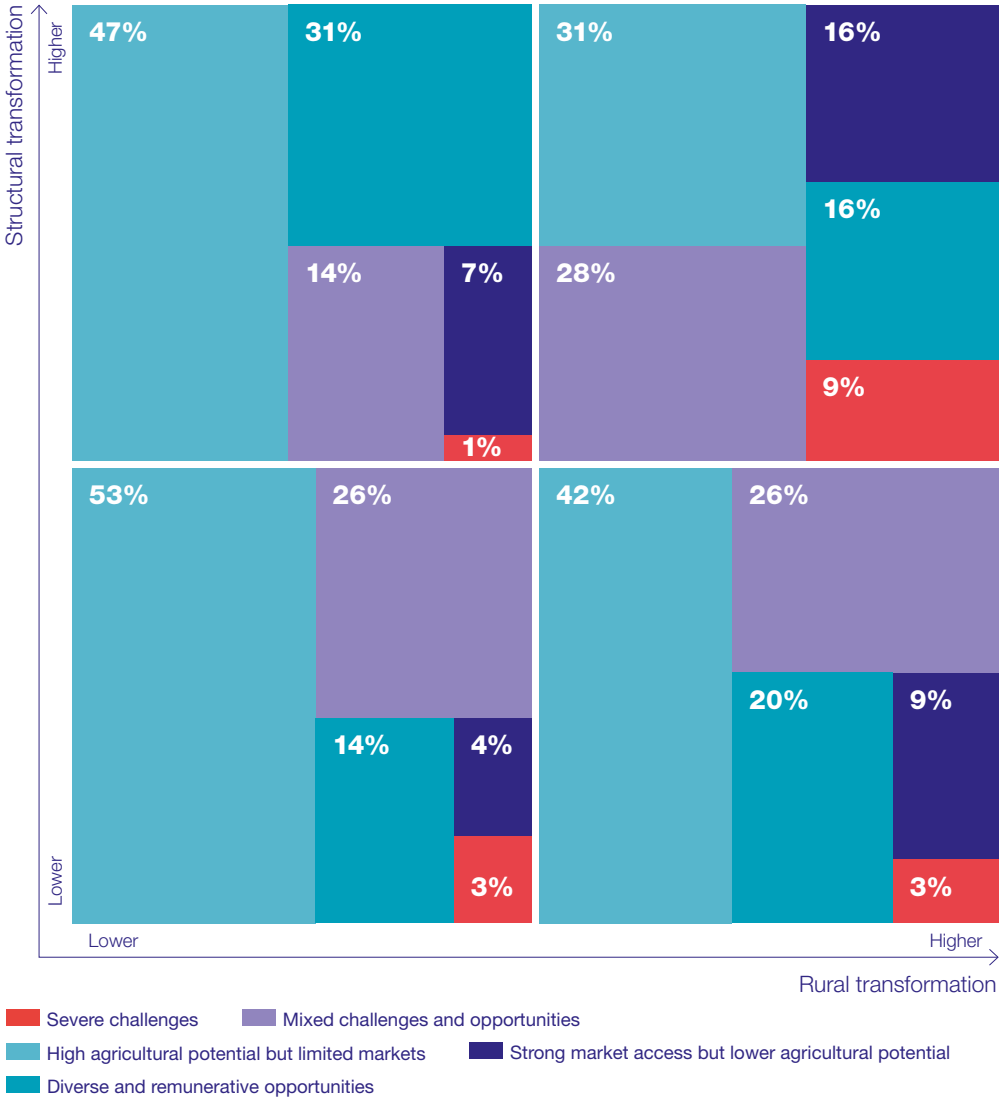
TABLE 2.1 Distribution of rural youth across the rural opportunity space, country transformation types, regions and countries

Rural youth with…	Share of all developing country rural youth	Where in the developing world do these young people reside?		Where are these young people the most prevalent?
		How are these young people distributed across ST/RT categories ? (%)	How are these young people distributed across countries? (top 3)	Regions/countries where these young people make up a large share of the total youth population
Severe challenges (SC)	**4%**	HH: **65%** HL/LH: **23%** LL: **12%** Total: 100%	Iran **22%** Brazil **9.8%** China **9.6%**	Regionally mixed. Top three countries are Turkmenistan (53%), Peru (47%) and Afghanistan (36%).
Mixed challenges and opportunities (MX)	**20%**	HH: **34%** HL/LH: **49%** LL: **17%** Total: 100%	China **19%** India **17%** Brazil **7%**	Dominated by SSA, with 8 out of the top 10. The top 3 countries are Burkina Faso (84%), Lesotho (83%) and Mali (76%).
High agricultural potential but limited market access (HALM)	**43%**	HH: **17%** HL/LH: **66%** LL: **16%** Total: 100%	China **27%** India **27%** Indonesia **5%**	Dominated by Africa, with 7 out of the top 10. The top 10 all have at least 81% of rural youth in this category. The top 3 are the Lao People's Democratic Republic (91%), Sierra Leone (90%) and the Democratic Republic of the Congo (89%).
Strong market access but lower agricultural potential (SMLA)	**9%**	HH: **44%** HL/LH: **50%** LL: **6%** Total: 100%	China **29%** Brazil **10%** Mexico **8%**	Dominated by LAC, with 5 out of the top 10 and 10 out of the top 20. The top 3 are Jordan (48%), Algeria (44%) and Tunisia (39%).
Diverse and remunerative opportunities (DO)	**24%**	HH: **16%** HL/LH: **77%** LL: **7%** Total: 100%	India **38%** China **19%** Bangladesh **10%**	Dominated by APR, with 6 out of the top 10. The top 3 countries are Bangladesh (79%), Egypt (56%) and Indonesia (46%).

Notes: ST: structural transformation; RT: rural transformation; APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa.
Source: Spatially explicit 2015 population data for 85 low- and middle-income countries from the WorldPop project have been used for the determination of spatial categories, shares of the rural youth population and country distributions; data from the Enhanced Vegetation Index (EVI) of the Moderate Resolution Imaging Spectroradiometer of the National Aeronautics and Space Administration (MODIS-NASA) have also been used for the determination of spatial categories. Country transformation levels are based on the World Bank's World Development Indicators on agricultural value added and shares of non-farm income in GDP for the latest available year.

FIGURE 2.5 The least transformed countries have the largest share of their rural youth population in areas with high agricultural potential. The most transformed countries face the biggest challenge in terms of youth in isolated, low-potential areas

Youth prevalence across the modified rural opportunity space, by country transformation space



Source: Author's calculations based on WorldPop, Enhanced Vegetation Index (EVI) and World Development Indicators data. The dataset covers 85 low- and middle-income countries (based on World Bank definitions and 2018 data).

what countries they are the most *prevalent* in, i.e. on the countries where they constitute the largest share of the population. Since policy is made at the country level, this county-level prevalence is what drives rural youth policy challenges.

First, youth facing the greatest challenges in terms of their geographic environment – those in severe-challenges and mixed-challenges spaces – mostly live in the most transformed countries. This pattern can be seen both in the types of countries that most of them live in and in the locations where they are most prevalent. Across all developing countries, two thirds (65 per cent) of the 27.6 million rural youth

in severe-challenges spaces live in the most transformed countries. Over one fifth of all these young people live in Iran, followed by Brazil and China, each at around 10 per cent. This group and the mixed-challenges group are also most prevalent in the most transformed countries, as shown by the relatively large size of the corresponding boxes in the top-right quadrant of **FIGURE 2.5**. Severe- and mixed-challenges groups are least prevalent (the smallest boxes in **FIGURE 2.5**) in the countries with low rural transformation and high structural transformation levels. Regionally, the situation is less clear-cut in the case of the severe-challenges group, but the mixed-challenges group is most prevalent in Africa, as 8 of the top 10 countries in terms of the prevalence of youth in mixed-challenges spaces are in sub-Saharan Africa and 1 is in the West and Central Africa (WCA) region. Only 3.4 million of the 27.6 million young people in severe-challenges spaces live in the least transformed countries, and 60 per cent of this group (2 million) is found in Afghanistan.

As noted above, poverty is not widespread in the most highly transformed countries in which youth in severe- and mixed-challenges spaces are the most prevalent, but they do have small pockets of persistent poverty. Ghani (2010) refers to this as the "lagging region" problem. These countries should have the capacity to invest in these isolated segments of the rural youth population, as they have the most fiscal resources and the highest levels of government effectiveness. They also have, by definition, well-developed non-farm sectors and a high level of value added in their farming activities compared to other developing countries. They therefore need to invest in low-potential areas in order to develop the cognitive and non-cognitive skills and connectivity of their rural youth in order to pave the way for their fuller integration into the rest of their transformed economies. Their prime challenge may be to generate the political will to ensure that their rural transformation process is inclusive of these youth. Cultural differences may also play a role, as some indigenous communities (e.g. in Peru, Bolivia and Mexico, all of which are among the top 10 countries in terms of the prevalence of rural youth in severe-challenges spaces) remain outside the mainstream society and economy.

Second, nearly half of all rural youth – the largest group – are in areas with a high agricultural potential but limited market access (HALM). This group predominates in African economies: 7 out of the top 10 countries in terms of prevalence in this regard are in Africa (Lao People's Democratic Republic, Bhutan and Malaysia are the exceptions), and at least 81 per cent of rural youth fall into this category in each of those 10 countries (see row 2 of **TABLE 2.1**). The fact that most of these countries fall into the least transformed category means that their challenge is twofold. First, they need to improve the requisite infrastructure to connect rural youth (and the rest of the rural population) to markets for agricultural inputs and output. At the same time, they need to put policies in place that will improve access to the inputs and services required to raise agricultural productivity, which will then speed up the rural transformation process. The resource constraints that detract from their ability to do so are primarily the shortage of fiscal resources and their governments' limited capacity for designing and implementing the necessary investments and policies.

Third, only 9 per cent of the developing world's rural youth live in spaces that are in a strong position in terms of market access but have poor agricultural potential (SMLA). Put another way, it is rare to see densely settled populations in areas that have a low or medium level of productive potential. Here again, this pattern reflects the historical settlement patterns of migrating populations seeking areas of high farming

potential. By country type, this (uncommon) group is most common in the countries with mixed transformation levels. Regionally, although the top 3 countries in terms of prevalence are in NEN, LAC accounts for 5 of the top 10 countries. The majority of the LAC countries are in the most highly transformed category in the country typology and have highly urbanized populations. The policy challenge here is also twofold, but with a different emphasis than in the HALM space. In short, for this region, the challenge is, first, to help these youth transition into remunerative non-farm activities as a likely best option for most of them and, second, for those interested in farming, to facilitate access to the inputs and information needed to overcome the area's limited agricultural potential. The potential degree of market access for these young people – thanks to the highly urbanized population distribution and much greater purchasing power than in lower-income countries – will facilitate the uptake of such inputs on the part of those with a preference for farming or engagement in the broader AFS.

Fourth, it is striking that one of the top three countries in the diverse-opportunities (DO) **category is a desert country (Egypt).** This, once again, reflects the movement over time of people to areas that offer opportunities (good land and good water sources) and, in more modern times, to more densely settled areas that offer commercial opportunities. The top 10 countries in terms of their shares of young people residing in diverse-opportunities spaces are mainly in APR (6 out of 10), and all of them have a high level of structural transformation. These countries need to focus on building the cognitive and non-cognitive skills of their young people so that they can seize the opportunities that the rural space offers them. Active labour-market policies may also be called for in this case, since youth unemployment rates are far higher in the most highly transformed countries, which also have more resources for dealing with the problem.

Finally, the two types of countries with mixed transformation levels (a high level of structural transformation and a low level of rural transformation and vice versa) look very similar (as can be seen from the upper left and lower right quadrants of **FIGURE 2.5**). In each of these categories, more than 40 per cent of rural youth live in HALM spaces. The percentage of rural youth in DO spaces is the highest in these countries, while very small percentages live in severe-challenges (SC) spaces. These similarities in the rural youth distribution over the ROS typology for these two types of countries suggest that their policies and investments will share certain features, since, in both cases, they will be oriented towards combining improved market access with targeted investments designed to boost agricultural productivity.

Rural youths' livelihoods are shaped by their households' level of transformation

This section brings together the ROS and household transformation categories first outlined in chapter 1 and looks at three different factors. The first is the distribution of household transformation categories across regions and the ROS. The second is how young people's households and their ROS influence the ways in which they engage with the economy and how they manage the school-to-work transition. And the third factor is how young people's households and their ROS influence youth welfare outcomes. This analysis leads to three broad conclusions. First, it indicates that the vast majority of households are either transitioning or have fully transitioned out of farming and that these patterns vary in predictable ways across regions and across the ROS. Second, rural youth largely do what the adults in their households do when it comes to allocating their time between

work on the farm and work off the farm. However, when young people do work off the farm, they are much more likely than their elders to have wage jobs rather than to be self-employed. Finally, the analysis strongly suggests that commercial potential has a larger impact than agricultural potential on youth schooling and welfare outcomes.

The vast majority of rural youth live in households that are either transitioning or have fully transitioned out of farming, and these patterns vary in predictable ways across regions and the ROS.

Previous sections of this report have shown that the countries and geographies that rural youth live in shape the challenges that they face and the opportunities that are open to them. The analysis presented in this section is based on the premise that the way that youth respond to these opportunities and challenges – how they transition from school to work, in which sectors they work and what kinds of work they do (self-employment or wage employment) – and the level of welfare that they achieve will be shaped by the households they live in and by the way these households engage with the rural economy.

BOX 2.3 A novel empirical approach to understanding rural youth, their families and their welfare outcomes

The empirical application of the household transformation categories is based on nationally representative household data from 12 countries across SSA, APR and LAC: Ethiopia, Malawi, Niger, Nigeria, Tanzania and Uganda in SSA; Bangladesh, Cambodia and Nepal in APR; and Mexico, Nicaragua and Peru in LAC (see annex C for further details). These data provide the fullest picture to date of the kinds of households that rural youth live in, how this relates to the geographic space they occupy (ROS) and how welfare and schooling outcomes vary across these dimensions. Chapter 3 uses the same framework to explore gendered dimensions of youth engagement with the economy, while chapter 6 uses it to present more detailed information on how all rural youth engage with the economy.

Though not statistically representative of their regions or of all developing countries, these analyses are important for three reasons. First, this is the most comprehensive set of microdata yet compiled on the topic of the geographic distribution and engagement of rural youth in the economy. It includes at least two countries from each region and a wide variety of countries and types of spaces within them. Coverage within SSA is especially strong. Second, the standardized definition of rural spaces across all countries used to create the ROS avoids the problems involved in defining rural spaces in diverse settings, thereby providing comparability across countries. Thus, for example, households in Mexico, Bangladesh, Nigeria or Niger whose members reside in the SC space all have similar low population densities (our proxy for commercial potential) and low agricultural potentials. What varies across countries is the level of transformation and the proportion of households and rural youth in each kind of space. Finally, the standard definitions of household types in the household transformation categories add to their comparability. What remains uncontrolled for is the broader level of transformation of the country and the income levels, poverty rates, and governance and other factors that are correlated with it, which are discussed when and as needed in the interpretation of the results.

Based on what is widely known about the role that rural non-farm income plays in increasing the incomes of rural households (Haggblade, Hazell and Reardon, 2007), it is to be expected that most rural households, in responding to their set of opportunities, will seek to add non-farm income to their portfolio and to increase the share of total income derived from such sources whenever they can. The ROS categories, listed in ascending order of the off-farm income-generation opportunities that they offer to their residents, would then be: SC, MX, HALM, SMLA and DO.

On this basis, and also considering the role of structural and rural transformation in making such non-farm opportunities available, certain expectations can be formed regarding the distribution of household transformation types across the ROS and across regions. In terms of the ROS, subsistence households are likely to be most common in SC spaces and least common in SMLA and DO spaces. Likewise, non-farming rural households[14] and diversified rural households should be most common in

14 Non-farming households include a very small percentage of landless households that are dependent on farm wage labour for their survival. These are expected to be the poorest households, while other non-farming households are expected, on average, to be the wealthiest. Because the non-farmers that are dependent on wage labour represent less than 1 per cent of all non-farming rural households, the two are grouped together in a single category.

DO and SMLA spaces and least common in SC spaces. Specialized farmers should be found most frequently in HALM spaces (which provide fewer off-farm opportunities than SMLA spaces), while transitioning households – the largest and most diverse group – should be found in similar proportions across the ROS.

Regionally, LAC has the highest levels of structural transformation, and the three LAC countries in the 12-country dataset used here follow that pattern. SSA has the lowest level of structural transformation. On this basis, the expectation is that subsistence farmers will be most common in SSA and least common in LAC, while non-farming rural households and perhaps diversified rural households should be most common in LAC and least common in SSA. What is to be expected in the case of specialized farmers is less clear, except that they would not necessarily be most common in LAC, where greater non-farm opportunities may prompt households that might otherwise enter this group to move into more non-farm activities instead.

FIGURE 2.6, which shows the shares of rural youth living in each type of household, amply confirms these expectations. First, it shows that rural youth in transitioning rural households are the largest group, at 56 per cent overall, followed by those living in non-farming households, at nearly one quarter of the total. Very few young people live in households located in the corners of the household transformation space: only 2 per cent are in diversified rural households, 8 per cent in subsistence-farmer households and 10 per cent in specialized-farmer households. The low level of subsistence farming reflects the fact that the transformation of the AFS (the focus of chapter 6) that has been unfolding across the world over the past few decades has introduced market engagement into all but the most remote rural areas.

Second, rural youth living in subsistence farm households are more common in SSA, which is the least transformed region (twice as common as in APR and five times as common as in LAC, which is the most highly transformed region). This pattern is consistent with expectations. Third, rural youth in non-farming rural households are most common in LAC (two to three times more common than in the other two regions), also as expected. Slightly surprisingly, young people living in such households are more common in SSA than in APR, but the difference is not large.

Finally, the shares of rural youth in diversified and non-farming rural households become progressively larger as one moves across the ordered ROS categories, while the shares living in subsistence farm households become progressively smaller. These patterns are entirely consistent with the expectations laid out above.

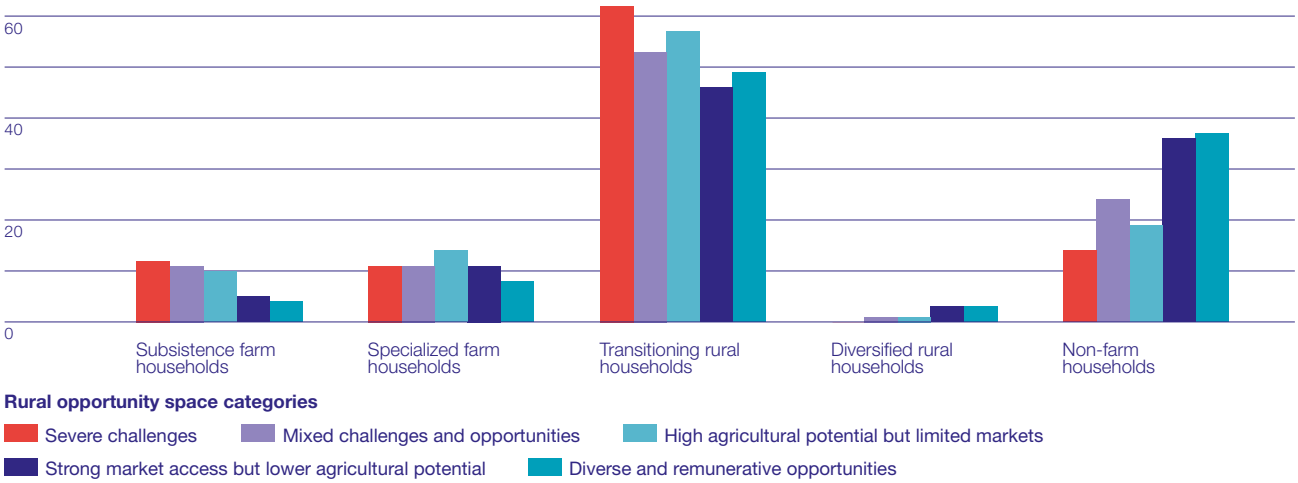
BOX 2.4 What are full-time equivalents (FTEs) and how are they calculated?

In this report, individuals' work effort is expressed in full-time equivalent units (FTEs). FTEs are estimates of the amount of time that an individual works relative to a standard benchmark (FTE = 1.0) of 40 hours per week, 52 weeks per year. Someone who is not in the workforce has an FTE of zero, while someone working an average of 20 hours per week over the course of the past year would have an FTE of 0.5.

The reference period for all work-related calculations in this report, including those dealing with the question as to whether someone was in the workforce or not or was unemployed, is the past 12 months. This approach is different from the one used in standard labour market analyses, which focus on the past week. The approach here will deliver higher estimates of workforce participation than standard labour market measures and will not measure unemployment, since that cannot be defined for a 12-month reference period. However, by taking advantage of the full 12-month period covered by the 12 household datasets, the report delivers a more complete picture of youth work effort than would be possible with more traditional approaches.

FIGURE 2.6.a Households engage with the economy based on the opportunities that their rural opportunity space offers

Households across the rural opportunity space, percentage by household type



Notes: The percentages of households within each category of the rural opportunity space add up to 100.

FIGURE 2.6.b The majority of rural youth live in either transitioning households (APR and SSA) or fully transformed non-farm households (LAC)

Share of rural youth within regions by household type

Notes: Household transformation categories are defined in parallel with the country transformation typology (i.e. structural and rural transformation) at the household level. These categories combine the extent to which the household has commercialized its agricultural production activities (measured as the share of farm sales over total farm income and reflecting the rural and agricultural transformation of the household) with the extent of its diversification into the non-farm economy (measured by the share of non-farm income over total income and reflecting its structural transformation). The household transformation categories are defined on the basis of the combination of the terciles for these two indicators. Subsistence farming households are in the bottom tercile of both indicators. Specialized farming households are among the top third in farm commercialization but the bottom third in non-farm diversification. Diversified rural households are among the top third in terms of both indicators. Transitioning households have mixed livelihood strategies and are moving out of subsistence agriculture in all directions. Non-farming households (those with no own-farm income) are split between landless farm households whose head performs agricultural wage labour (consistently the least desirable kind of employment in rural areas and an indicator of poverty) and fully transformed households whose members do other types of non-farm work.
Source: Authors' calculations using household survey data from 12 countries in 3 regions (SSA, APR and LAC) combined with population density data from the WorldPop project at the enumeration area level.

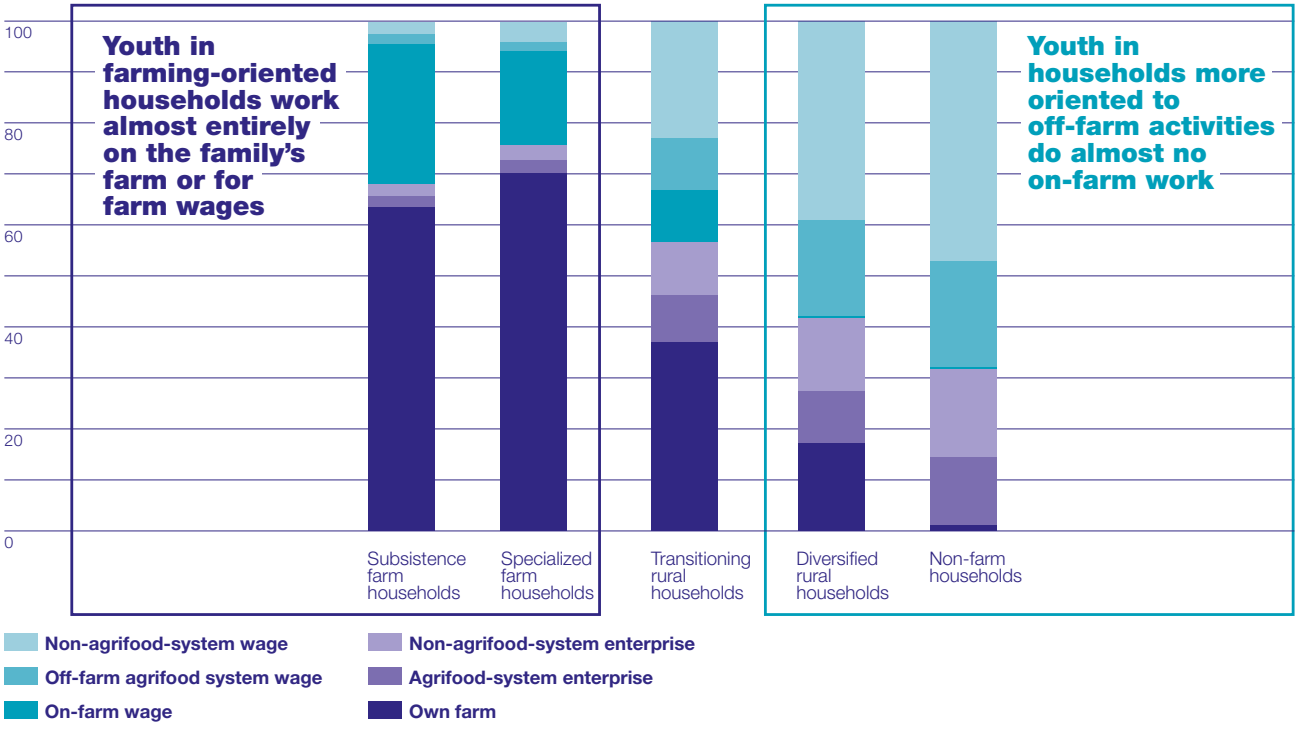
Sectorally, rural youth largely do what the other members of their households do; but when they work off the farm, young people are much more likely than their elders to have wage jobs

The basic pattern is one in which young people divide their time between on-farm and off-farm activities in very much the same way as their families do, but they diverge in clear ways when it comes to the kind of non-farm work that they do. In subsistence farm households, specialized farm households and transitioning households, rural youth devote most of their working time to their household's own farm and to farm wage work, while those residing in households that are less oriented towards farming (diversified rural households and fully transformed non-farming households) mainly work for wages off the farm (see **FIGURE 2.7**).

When young people work off the farm, they diverge in clear ways from the pattern established by the older members of their households (see **FIGURE 2.8**). Young people consistently engage to a much greater extent than their elders in off-farm wage work within the AFS and much less in any kind of enterprise work. These patterns point to a lower barrier to entry into off-farm wage work than into enterprise work and are in keeping with the finding in the literature that most successful entrepreneurs are not young but instead older people, who hire young people as wage workers (Mabiso and Benfica, 2018). Gender also exerts a strong influence on young people's choices about how to engage in the economy, as will be discussed in chapters 3 and 6.

FIGURE 2.7 What rural youth do depends, but only in part, on what the other members of their households do

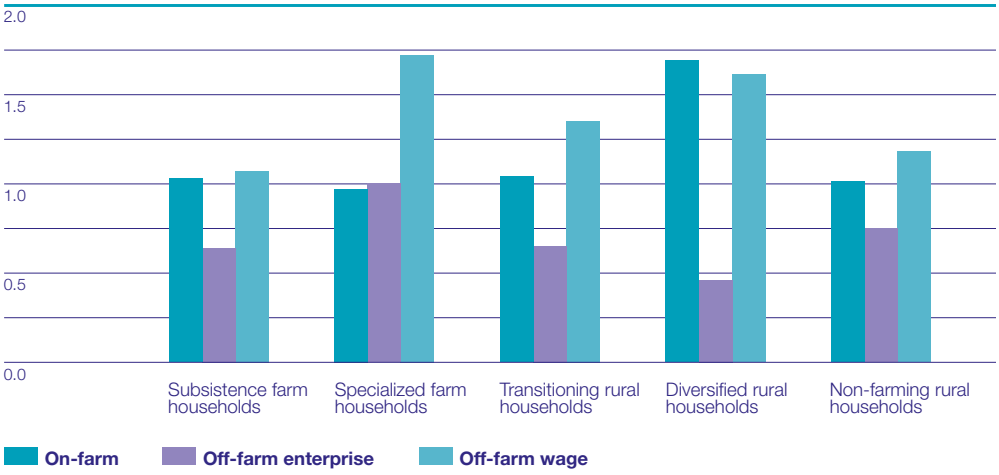
Distribution of rural youth work effort, by functional and sectoral employment categories, percentage of full-time equivalents



Notes: Full-time equivalents (FTEs) are based on household survey data covering 128,227 individuals representing around 134 million rural youth in 12 countries in 3 regions (SSA, APR and LAC). Indonesia was dropped from the FTE calculations because inconsistent survey weights interfered with comparability.
Source: Authors.

FIGURE 2.8 When they work off the farm, rural youth engage much more in wage work and much less in enterprise work than their elders

Ratio of FTE shares for rural youth relative to non-youth in the same households



Notes: Full-time equivalents (FTEs) are based on household survey data covering 128,227 individuals representing around 134 million rural youth in 12 countries in 3 regions (SSA, APR and LAC). Indonesia was dropped from the FTE calculations because inconsistent survey weights interfered with comparability.
Source: Authors.

Evidence suggests that commercial potential has far more of an impact than agricultural potential on rural youths' schooling and welfare outcomes

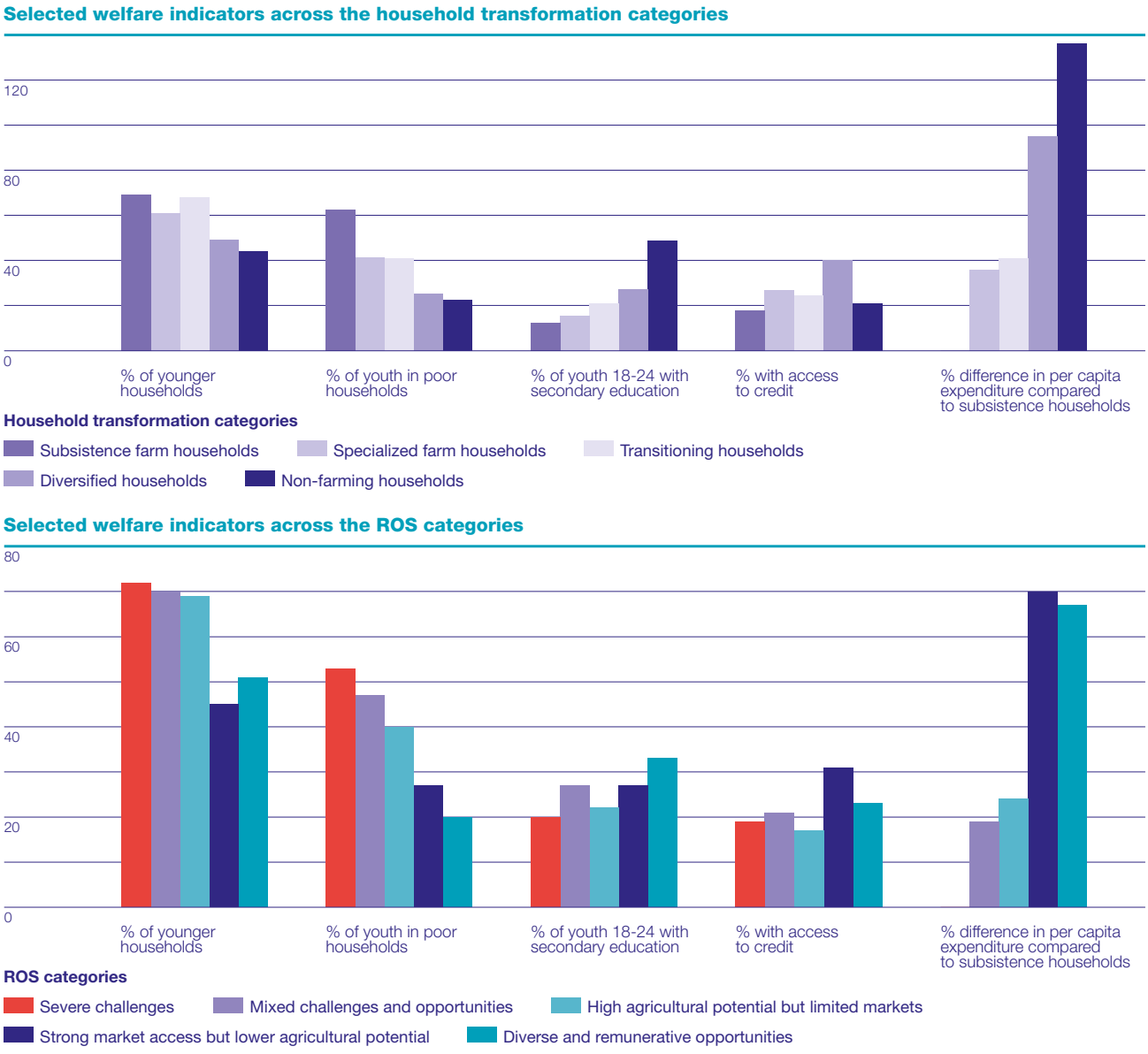
The line of reasoning outlined above regarding the role played by rural non-farm income in driving gains in overall income suggests that increases in total per capita household incomes should be expected to follow the same order in terms of ROS categories: SC, MX, HALM, SMLA and DO. Likewise, household incomes would be expected to rise in this same order: Subsistence farm households, specialized farm households, transitioning rural households, diversified rural households and non-farm rural households.

The data shown in **FIGURE 2.9** resoundingly confirm both of these expectations. The percentage of young people who are poor falls steadily across the ordered household and ROS categories, while the percentage with a secondary education and mean household income per capita rise steadily across both. Also across both sets, the percentage of younger households falls and the percentage with access to credit rises slightly. The pattern is clear: subject to the overall level of transformation of the country, a household's ROS strongly influences how it engages with the economy and this, in turn, drives income and welfare outcomes.

Yet the ROS combines two elements of opportunity: commercial potential and agricultural potential. Which of these has the larger impact on what youth and their households do and on their welfare outcomes? The rest of this section examines this question, starting with the impact of each of these elements on schooling.

As rural youth transition into adulthood, one important decision is how long to continue to pursue an education. This question is not separable from the questions of whether, how much and in which activity to work (Fox, 2018). Adolescents between the ages of 15 and 17 are generally expected to be in school, although they may also work while in school depending on the opportunities that their geographic setting offers and the needs of their households. The percentage of this cohort who are in school will slowly

FIGURE 2.9 Youth and household welfare measures across household transformation categories and ROS categories are closely in step with expectations and are driven by access to rural non-farm sources of income



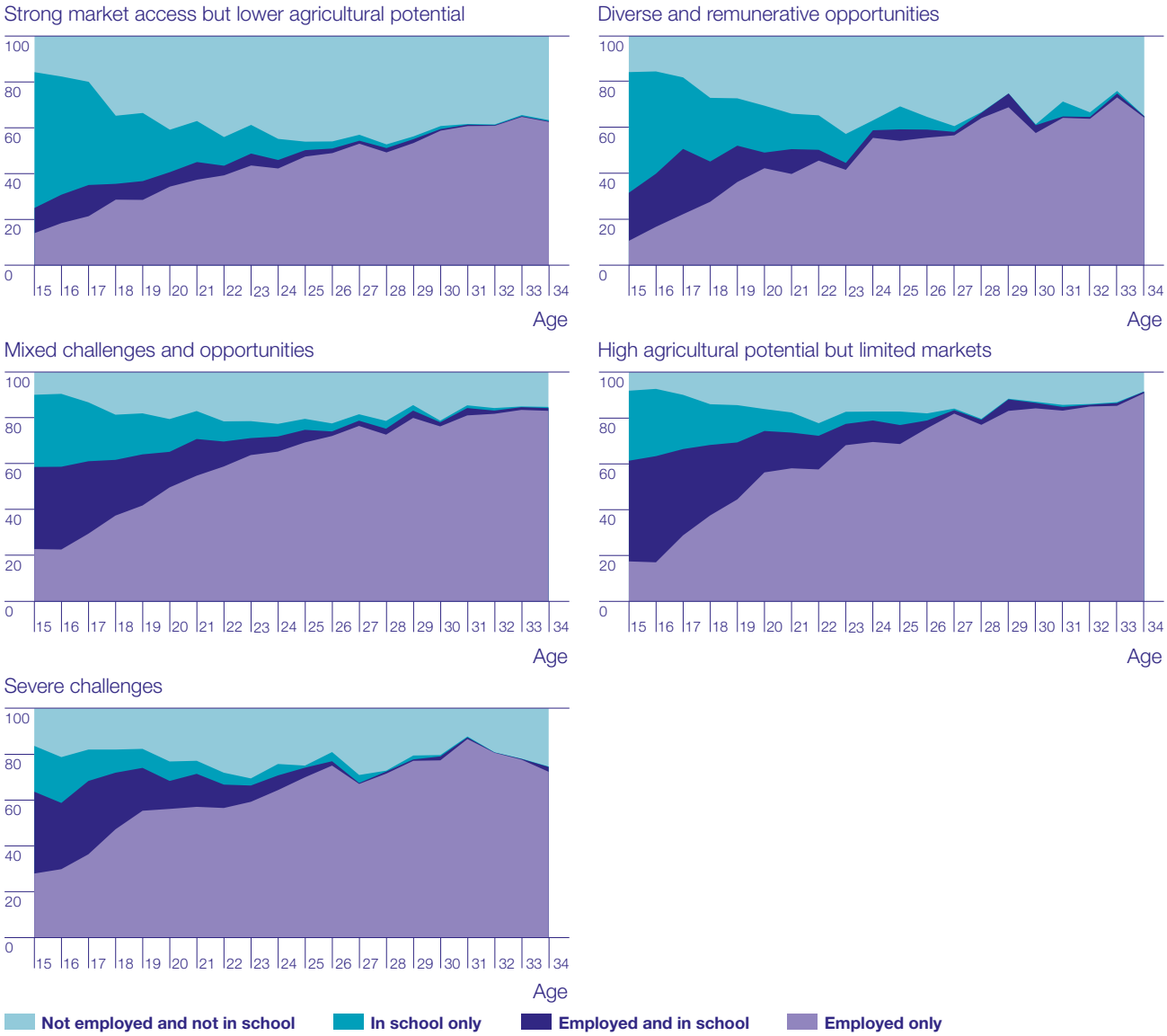
Source: Authors' calculations using household survey data covering 128,227 individuals representing around 134 million rural youth in 12 countries over 3 regions (SSA, APR and LAC).

decline as they transition into work after completing their secondary schooling. Where and how they work will be strongly influenced by the available opportunities.

The difference between the impacts of commercial potential and agricultural potential on schooling can be assessed in three ways based on the information provided in **FIGURE 2.10**. First, with a move, for example, from an MX space to an SMLA space – a move up one tercile in commercial potential while not changing the level of agricultural potential – the percentage of young people in school does not change (remaining around 70 per cent), but the percentage of young people who are in school only – devoting all

FIGURE 2.10 Commercial potential has a more positive impact than agricultural potential on the school-to-work transition

School-to-work transitions by ROS categories, percentage of youth by age



Notes: Due to issues with the questionnaire design, Bangladesh was dropped from the full sample for school-to-work transition figures.
Source: Authors' calculations based on 12 socio-economic household surveys conducted in LAC, SSA and Asia.

their time to school rather than juggling school and work – rises dramatically (from about 30 per cent to about 60 per cent). This can be expected, on average, to lead to better learning outcomes.

Second, a move, for example, from an MX space to an HALM space – a move up one tercile in agricultural potential without changing the level of commercial potential – generates no appreciable change in the school/work pattern: around 70 per cent of 15-year-olds remain in school and a majority of them continue to work while attending school (in sharp contrast to what occurs in the SMLA space).

Finally, with a move, for example, from an SMLA space to a DO space, the share of 15-year-olds who are in school remains around 70 per cent, but the percentage of those who are also working actually rises. Clearly, then, many more young people, in relative terms, in more densely populated areas (which have more commercial potential) will devote themselves entirely to their studies than young people in areas of high agricultural potential will.

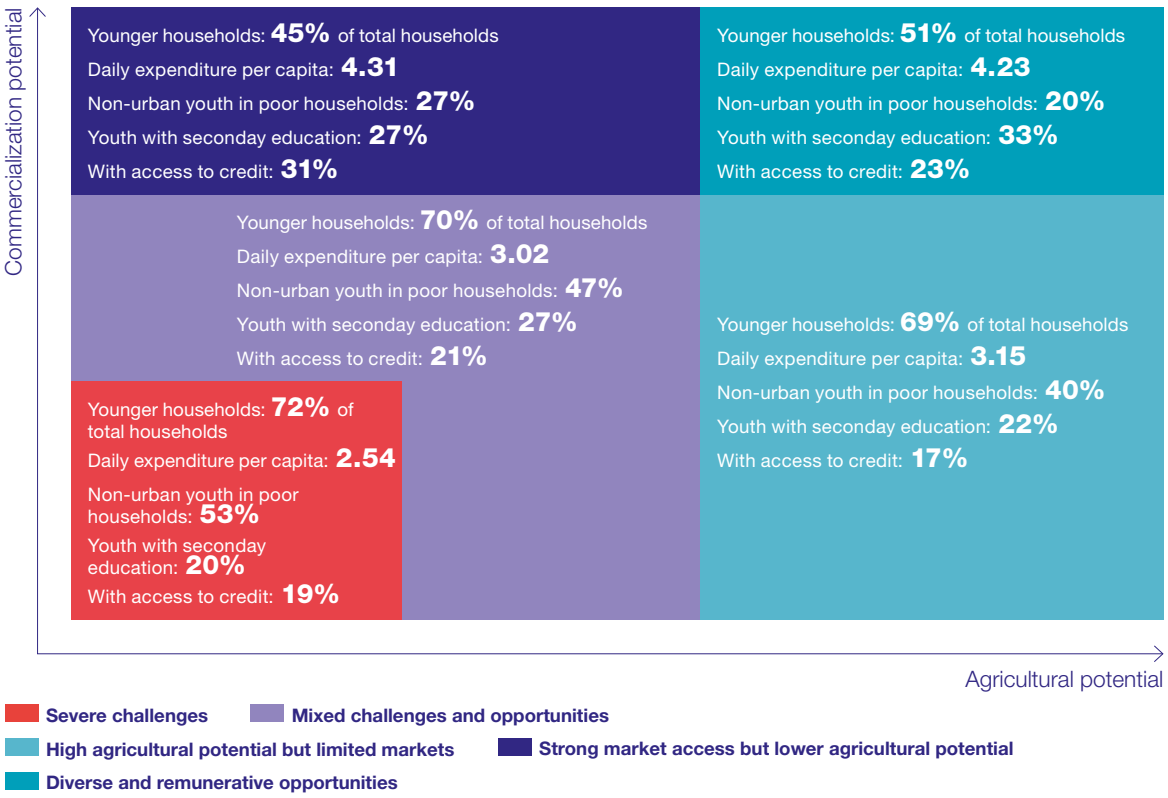
Welfare indicators follow the same pattern as schooling. This can be seen most clearly from the ROS map in **FIGURE 2.11** by considering the same three moves just discussed in relation to the school-to-work transition. Moving up one tercile in commercial potential from an MX space to an SMLA space delivers a nearly 40 per cent increase in average household income (measured by daily expenditure) per capita (from $3.02 to $4.31), a 40 percentage-point drop in the share of poor youth (from 47 per cent to 27 per cent), no change in the percentage of youth with secondary education and a nearly 50 per cent increase in the share of households with access to credit (from 21 per cent to 31 per cent).

If the move is instead up one tercile of agricultural potential from an MX space to an HALM space, incomes barely change at all, the share of poor youth falls by only about 15 per cent (from 47 per cent to 40 per cent), and the percentages of young people with a secondary education and of households with access to credit both fall.

Finally, a move from an SMLA space to a DO space (improving agricultural potential with no change in commercial potential) delivers mixed results: incomes

FIGURE 2.11 Income and wealth measures for households and youth rise more with increases in commercialization potential than with increases in agricultural potential

Income and wealth indicators by ROS



Notes: The sample includes only households with at least one young individual. Younger households are those in which young people make up a larger proportion of the household's economically active members than the national average.
Source: Authors' calculations based on 13 socio-economic household surveys conducted in LAC, SSA and Asia.

fall very slightly, youth poverty is reduced by about 35 per cent (from 27 per cent to 20 per cent) and the share of young people with a secondary education rises by about 25 per cent (from 27 per cent to 33 per cent), but the share of households with access to credit declines.

While not analytically conclusive, these results suggest that, across a broad range of indicators, commercial potential (as proxied by population density) has much larger positive effects on the welfare of families and the young people in them than agricultural potential does. This finding is not new. In fact, it is consistent with a large body of work on economies of agglomeration (World Bank, 2009; Spence, Annez and Buckley, 2009), but it nonetheless has important policy implications that need to be borne in mind when thinking about how to help young people become more productive, more connected and in charge of their own futures.

Investing in rural youth requires a careful assessment of where rural youth live in terms of the opportunities open to them and the challenges they face and the households they live in.

First, diversification is the norm. Only 12 per cent of rural youth live in subsistence farm households even in SC spaces – barely more than the share living in specialized farm households. Even in SSA, only 10 per cent of rural youth live in such households.

Second, for most rural households, diversification into the non-farm economy is likely to follow a path leading towards specialization in non-farm activities. The predominance of non-farmers in LAC, the fact that 20 per cent of rural youth, even in SSA, live in such households and the sharp rise in the percentage of young people who are living in such households across the sequenced ROS categories all point in this direction. So does the fact that less than 3 per cent of rural youth (regardless of their ROS, region or the level of structural and rural transformation of their environments) live in diversified rural households. Finally, the overwhelming evidence on the welfare-enhancing effects, across the developing world, of rural non-farm income (Haggblade, Hazell and Reardon, 2007) also leads to the same conclusion.

Third, despite the very evident move towards rural non-farm engagement across the developing world, farming is and will remain extremely important for millions of rural youth for many years to come. With the exception of LAC, at least 80 per cent of rural youth live in households where farming makes a major contribution to their livelihoods. Especially in Africa, the predominance of rural youth living in HALM spaces – where a great deal of agricultural potential goes largely unrealized because of poor market connections – suggests that the returns to higher agricultural productivity could be very significant in the short run.

Fourth, the problem posed by marginal areas appears to be manageable. Except in the most highly transformed countries, less than 3 per cent of rural youth live in SC spaces, and even in those spaces, nearly 90 per cent of the young people do *not* live in subsistence farm households but rather in households that are engaging actively in both the farm and non-farm economies. As rural population densities continue to rise, as physical infrastructure continues to be extended into marginal areas and as mobile connectivity gains ground, market engagement will grow in these areas and welfare should increase. In the most highly transformed countries, where nearly 1 out of every 10 rural youth lives in SC spaces, the primary challenge is one of political will, in conjunction, in some cases, with overcoming ethnic divisions.

In view of this state of affairs, a balanced policy is needed. Investments to improve productivity in farming will continue to be important, especially in areas with

high degrees of agricultural potential. The relatively large share of young people living in specialized farm households in the three Asian countries analysed here – around 15 per cent – shows how important this can be. Yet policymakers must realize that, as these investments improve incomes, many rural youth will be looking for opportunities to move into the non-farm economy. This highlights the need to integrate investments aimed at improving the connectivity of specialized farm households where rural youth live and broad-spectrum development investments in order to improve welfare outcomes. While agroecological potential is harder to influence (and takes longer to yield positive returns and hence is less politically attractive), commercial potential can be improved by investing in infrastructure and in providing greater access to markets and information. In areas with less agricultural potential, this approach can also raise the pay-offs to interventions targeting agricultural technologies that can improve resilience and productivity under more difficult conditions. Good rural development policies are thus a prerequisite for broadening the range of diverse, remunerative opportunities for rural youth.

SPOTLIGHT Rural youth in conflict-affected and fragile situations

Rural youth living in conflict-affected or fragile settings have fewer opportunities. The increasing prevalence of conflict, inequality, forced displacement, natural disasters and other global trends of the sort is heightening the severity of the challenges and constraints faced by rural youth (see chapter 1). This makes it critically important to tailor youth-centred development interventions to the targeted setting. **In 2016 alone, the conservative estimate is that at least 350 million rural youth lived in conflict-affected countries, and almost one third of the world's rural youth experienced conflict directly (Baliki et al., 2018).**[15] Based on the World Bank's Harmonized List of Fragile Situations, approximately 50 million non-urban youth from low- and middle-income countries currently live in fragile situations marked by the absence of institutions or the presence of extremely weak ones and by a weak State unable to provide adequate services in such areas as security, welfare and justice.[16]

Conflict and fragility may reduce both the quality and quantity of available jobs and individuals' capacity to efficiently do those jobs. This, in turn, can undermine the political, social and economic inclusion of rural youth, potentially fuelling further instability. Young people in fragile and conflict-affected areas are less likely to have attended or completed primary school and are therefore effectively excluded from secondary education. At the same time, keeping youth in school becomes increasingly important given the more formidable challenges they will face in the labour market. Recent evidence suggests that there may also be gendered effects, with girls being more likely to leave school than boys in these situations. What complicates matters even more is the fact that the lack of adequate non-cognitive skills can be exacerbated by the trauma of experiencing violence.

Furthermore, conflict and fragility potentially widen the aspirational and skills gaps existing between rural youth and other young people. The presence of these gaps is particularly worrisome in conflict-affected and fragile rural settings, where the opportunity space for rural youth is already more limited. On the one hand, conflict leads to the destruction of physical capital and reductions in investment and entrepreneurship. As a result, the economy may not demand the skills that young people have acquired and may not produce the jobs that they may desire (Rebosio et al., 2013). This fosters an environment marked by unmet expectations which may potentially lead to increased perceptions of exclusion and marginalization that may, in turn, heighten the risk of conflict and violence (OECD, 2018).

Conflict and fragility may also reverse the direction of the transformation process in the AFS (causing it to move from a transitional stage back to a traditional model) by disconnecting rural areas from value chains and markets and reducing employment opportunities for rural youth. The expropriation of land and the reduction of already limited access to land can lead to a further deterioration in the opportunities for rural youth in conflict areas, oftentimes resulting in displacement and permanent migration to urban areas. Yet young people and properly functioning agricultural systems are needed to strengthen food security and remedy the impacts of conflict and fragility (Baliki et al., 2018).

Conflict and fragility influence the labour market participation rates of men and women differently. Interestingly, studies report mixed findings depending on the nature and context of the conflict in question. In fragile and conflict situations, young women are oftentimes withdrawn from education and prevented from working outside of the house because their families fear for their safety. In addition, as reported by Schindler and Brück (2011), fertility rates among young women increase as households attempt to replace lost children. This may further depress the already low labour force participation rates of young rural women (see chapter 3). Though some studies suggest that displaced rural women are more likely than displaced rural men to find work in urban labour markets, this is the result of a necessary, but temporary, situation that does not lead to long-term changes in traditional gender roles and perceptions (Calderón, 2011).

Integrated and holistic policy approaches are needed to increase the social, economic and political inclusion of rural youth in fragile and post-conflict situations and to disrupt the vicious cycle of fragility and conflict. Multisectoral programmes should seek to simultaneously enhance the social integration, economic productivity and political participation of rural youth to support them in becoming productive and well-connected individuals in charge of their own future (DIIS, 2008). Important objectives for programme interventions include:

+ *Re-establish connections to markets and urban areas:* Governments, policymakers and development agencies

15 These authors matched up data from the Uppsala Conflict Data Programme / Peace Research Institute Oslo Armed Conflict Database with World Bank population estimates.

16 Calculated based on the rural-urban gradient using WorldPop population density data from 85 low and middle income countries.

need to make infrastructure investments to re-establish links with value chains, to strengthen food security and to create opportunities in the rural AFS that will be attractive for rural youth in post-conflict settings. Promoting innovative approaches involving, for example, the use of digital resources and mobile training facilities can help to improve connectivity, productivity and agency (UNCDF, 2018).

- *Promote education and skills development:* Redeveloping education systems and providing (vocational) training in fragile situations is crucial in order to equip rural youth with the cognitive and non-cognitive skills needed to succeed in rapidly changing labour markets. However, concentrating entirely on supply-side actions is not a sufficient response; demand-side concerns such as expectations and gender issues also need to be addressed (Baliki et al., 2018). The development of non-cognitive skills should be included in school and training curricula, since they are good predictors of long-run economic performance and entrepreneurial success and can help to reduce criminal activity. In addition, psychosocial support for youth is crucial, especially in post-conflict settings in which young people have experienced violence, in order to support the acquisition of cognitive and non-cognitive skills.
- *Promote youth agency and empowerment:* A youth-centred approach needs to be applied in development programmes and local conflict resolution interventions. Service delivery systems should seek to make people partners in the design and delivery of public services in fragile and post-conflict situations by mainstreaming participatory and consultative elements for all planning and programming functions (see chapter 4).
- *Improve land tenure systems:* To empower rural youth and provide attractive and sustainable opportunities in farming, functioning land tenure markets need to be established. These markets need to be coupled with access to finance, information and training for rural youth in order to ensure their productive engagement with the economy and society.
- *Address capital constraints:* In-kind capital assets and subsidized credit are needed in fragile and post-conflict situations, especially those in rural areas, in order to help young people to start up and maintain their businesses and to improve their long-term earning potential (Blattman and Ralson, 2015). A recent study in post-conflict Uganda showed that, although the provision of start-up grants to young adults had increased their earnings by 38 per cent after four years, these effects faded and ultimately disappeared in the long term. The effects on assets and skilled work were sustained, however. This suggests that long-run opportunities can be expanded for rural youth by initiatives of this sort (Blattman, Fiala and Martinez, 2014 and 2018).

BOX 2.5 Skills development in Nepal's post-conflict setting

To respond to political and social imbalances and provide young, conflict-affected men and women between the ages of 16 and 35 with the skills and knowledge needed to respond to the increasing challenges associated with labour market demands, IFAD partnered with the International Labour Organization's country office in Nepal (ILO Nepal) to provide training to young people and to place them in sustained economic activities. The overall implementation approach of the Skills Enhancement for Employment Project (SEEP) was primarily based on the ILO Training for Rural Economic Empowerment (TREE) methodology, which builds on the principles of community-based training. TREE consists of a set of distinct but coherently linked components for guiding the process of economic development. Starting with institutional arrangements and planning among partner organizations at the national and local levels, these components are focused on systematically identifying employment and income-generating opportunities at the community/local level; designing and delivering appropriate training programmes; and providing the necessary post-training support services, including a range of support measures to assist targeted beneficiaries to organize themselves into credit and savings groups.

By the time of its completion in 2010, the programme had promoted income generation and local economic development for youth in the five targeted districts of western Nepal:

- **Altogether, 1,252 young people enrolled in 39 different capacity development and vocational training programmes; 96 per cent of them graduated.**
- **Thanks to post-training support services, 70 per cent were placed in employment.**
- **To enhance entrepreneurship skills, about 250 programme beneficiaries interested in starting their own businesses were provided with entrepreneurship and enterprise development training.**
- **Cooperative enterprises run by trained youth were in place and functioning well. Some 150 trained young people were organized into cooperatives.**
- **Technical training providers, NGOs and other stakeholders had all engaged in capacity-building activities.**

SPOTLIGHT Near East, North Africa, Europe and Central Asia (NEN)

The youth bulge in NEN represents an opportunity that is not being fully tapped owing to high youth unemployment rates. Countries in the NEN region have a large percentage of young people in their populations; almost one out of every five people is young, and they account for 7 per cent of the total rural youth population in low- and middle-income countries. The NEN region comprises two distinct subregions:[17] the Near East and North Africa (NENA) and Central and Eastern Europe and newly independent States (CEN). Within these two subregions, NENA once had the largest share of young people in its population but has recently been surpassed in that respect by sub-Saharan Africa. This "youth bulge" represents a window of opportunity.

However, the NEN region also has one of the highest youth unemployment rates in the world (around 30 per cent in 2016). The highest rates of all are 54 per cent in Bosnia and Herzegovina (2016), 43 per cent in the State of Palestine (2017) and 36 per cent in Armenia (2016) (ILOStat, 2018). Youth unemployment rates are generally higher in urban areas and, in some cases, are as much as 2.5 times higher than the corresponding adult unemployment rates (ILO, 2017). The possibility of becoming unemployed is especially high when people are transitioning from school to work, and this is particularly true in this region because its education systems are failing to provide youth with the cognitive and non-cognitive skills they need to succeed in the labour market (Salehi-Isfahani, 2012; Assaad et al., 2017). Therefore, even though access to education is nearly universal in the region, 34.1 per cent of young men and 25 per cent of young women are leaving school early.[18] Survey results indicate that, in Egypt, nearly two thirds of unemployed youth were looking for work for one year or longer (classified as long-term unemployed). In Lebanon, 46.5 per cent of unemployed youth had been unemployed for longer than one year (25.3 per cent longer than two years) (ILO, 2016). In the CEN[19] subregion, 38 per cent of young jobless persons in Armenia were classified as long-term unemployed and, in Azerbaijan, the corresponding figure was 72 per cent (ILO, 2017).

The rural youth labour market is marked by an inefficient allocation of labour, especially in the case of young women. A large share of total employment is still in agriculture in most NEN countries. In CEN, although unemployment is higher in rural areas (19.7 per cent) than in urban areas (9.5 per cent), young people are overrepresented in agriculture, followed by retail trade and hotels and restaurants. The proportion of contributing family workers is also high, especially in Armenia, Azerbaijan, Georgia and Kyrgyzstan. The vast majority of own-account workers and contributing family workers are engaged in low-productivity activities, often without any social protection. In the NENA subregion, unemployment in rural areas is lower (22.8 per cent) than in urban areas (29.3 per cent), but more than half of all working young people are employed in the service sector, especially in wholesale and retail trade, and in manufacturing. Service-sector employment is as high as 82.1 per cent in the case of Jordan (ILO, 2016). However, both subregions face the same problem of skill mismatches. The economies of these countries are not able to generate enough productive jobs for young, educated people, and many of these people therefore find themselves performing jobs that require less education than they possess. The lack of jobs in productive private sector activities is therefore a big demand-side challenge for young people in NEN. Indeed, the contribution of private sector investment to economic growth in this region is the lowest in the world, and most investments are directed towards capital-intensive and low-skilled-labour-intensive sectors (Gatti et al., 2013). Interventions for addressing this demand-side problem should include improvements in vocational training that link it more directly to the labour market and increased use of on-the-job training programmes for young people while they are still in school.

Access to suitable job opportunities is particularly limited for young women in the region. In fact, the labour force participation rates of young women in the NENA subregion are by far the lowest in the world at 15 per cent, as compared to 35 per cent worldwide (ILO, 2017). The situation is better in the CEN countries, where the labour force participation rate for young women is around 30 per cent. Unemployment rates are higher among young women, in some cases nearly twice as high, as they are among young men. Conservative social attitudes regarding such practices as early marriage, coupled with traditional cultural norms and gender stereotypes, undermine women's educational

17 Based on the IFAD classification of regions.

18 The NENA region as defined by ILO includes one other country – Bahrain – but does not include Algeria, Djibouti, Libya, Morocco, Somalia, Sudan, Israel, Eritrea, Tunisia or Turkey.

19 The CEN region as defined by ILO includes two other countries – Serbia and Ukraine – but does not include Croatia, Cyprus, Georgia, Malta or Montenegro.

and employment prospects and limit the types of work that they are allowed to do. In some NEN countries, young women tend to choose types of careers that are reserved almost exclusively for them in such areas as caregiving, education and health services. Such restricted opportunities undermine young women's potential and curtail their future prospects by excluding them from better-paying jobs in male-dominated professions (UNDP, 2016).

Ongoing conflicts and political instability have especially harsh effects on rural youth. These young people tend to become marginalized, thereby increasing the level of migration pressure.

The effects of the conflicts existing throughout the NEN region continue to reverberate, affecting both conflict countries and their neighbours. The Syrian conflict has led to the migration of over 5 million Syrians and displaced another 7 million internally (Kabbani, 2019). While fighting in large urban centres such as Aleppo have captured headlines, much of the conflict, devastation and displacement has occurred in rural areas of the country. The civil war in Yemen has displaced over 3 million people. Yemen is a mainly rural country, and the conflict has disrupted the livelihoods of most of the population. The disruption caused by conflicts just when young people are transitioning towards social and economic independence has long-lasting implications.

Apart from the negative impacts of conflicts, many countries of the region are led by authoritarian regimes that tend to marginalize rural areas and youth. Investments tend to flow to areas that are aligned with the regimes and their political bases, which are concentrated in the capital cities and other urban areas. As a result, rural areas are particularly susceptible to economic, social and political exclusion and to the marginalization of "outsider" groups, including women, youth and migrant workers. Youth in NEN have struggled to fulfil their aspirations in relation to economic, civic and political participation. Rural youth are even more disadvantaged, as they have limited access to public institutions and are subject to greater constraints when they attempt to start their own initiatives. Labour force participation rates are lower in rural areas in most NEN countries; for example, that rate is just 2 per cent in Egypt for people between the ages of 15 and 24 in rural areas, in contrast with a rate of 13 per cent in urban areas, while, in the State of Palestine, the difference between urban and rural youth participation rates amounts to 18.6 percentage points (Kabbani, 2018).

In the absence of viable pathways to means of supporting themselves socially and economically, young people are forced to migrate in search of better opportunities. However, when they do so, they have to deal with discrimination and marginalization in the host country. Refugees are often seen as new competitors by local workers, with the consequent rise of social tensions and instability. This limits their chances of finding a job that is commensurate with their skills. However, migrant labour can hold great potential for the economy of receiving countries. In particular, in the Mediterranean basin, it may be of help in dealing with the challenges Western Europe will face as its labour force shrinks. Effectively managed interregional migration can benefit both receiving and sending countries: for receiving countries, it can ease the negative consequences of having an ageing population by rejuvenating their labour force and lowering their dependency ratios; and, for sending countries, it can decrease the current youth bulge in their population pyramids and ease the pressure on their labour markets (Koettl, 2009). To make this possible, policy reformulations are needed in order to expand the opportunity space for refugees and migrant workers and to promote their economic participation by aligning underserved occupations with their skills.

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Empowering young rural women to pursue productive livelihoods

Chapter 3

Young rural women face greater constraints than their male counterparts do in seeking to become productive, well-connected individuals in charge of their own futures. Social norms regarding gender roles shape livelihood options for young men and women as they transition into adulthood. In many contexts, these norms put more constraints on women than men, and the constraints are likely to be stronger in rural areas, especially in less-connected locations. Being young, rural and female thus represents a triple burden that may result in less human and physical capital accumulation, a lower labour force participation rate and lower productivity, along with the associated lower welfare outcomes.

In the most highly transformed countries, young women often outperform young men in terms of educational attainment, although this is often not reflected in their participation in the labour force. These countries need to enable young rural women to transition into productive – not only reproductive – lives so that they can reap the returns from their investment in their human capital.

In the least transformed countries, young rural women still lag behind in educational attainment, economic participation and productivity. Investments in these countries need to improve the human capital endowments of young women so that they can transition into productive livelihoods. Evidence suggests that the pay-offs to secondary education in the least transformed countries are especially high for women. Investments thus should focus on bringing girls to school, having them stay in school longer, facilitating their transition into employment and improving their health care.

Empowering young rural women by lifting the constraints on them and connecting them more closely with their peers, communities and markets is particularly important for three reasons. First, fully incorporating young women into the economy and raising their productivity can significantly speed up the rural transformation process. Second, empowered young women are more likely to marry later and have fewer children, giving them a greater chance to obtain better health and economic outcomes for themselves and their children. Third, lower fertility speeds up the demographic transition and contributes to the realization of the demographic dividend (see chapter 5). Empowering young rural women, therefore, requires investments not just in the productive but also in the reproductive spheres of their lives. Successful programmes in these areas involve young women themselves, along with their parents, siblings, partners and communities, in helping to bring about social change.

Being young, being rural and being a woman poses a triple challenge

The triple burden of being a young rural woman poses various challenges that must be met in order to advance in life and, in particular, to engage in the economy in a remunerative way. The intersection of these three factors makes assets more difficult to accumulate,

reduces mobility and inhibits access to networks and services that are important in order to gain access to desirable occupations; as a result, young women often enter occupations that deliver lower returns (Doss et al., 2018).

Young rural women face more constraints than young rural men do as they seek to accumulate the assets they need in order to transition into productive livelihoods

The unequal accumulation of human, physical and social capital often stems from the existence of social norms that give parents incentives to invest differentially in their children, traditional rules of land inheritance, and social, political and economic networks that discriminate against younger and female participants. While the rural transformation process improves access to human, physical and social capital, gender differences generally persist, especially in rural areas.

First, although the long-standing gender gap in human capital accumulation has been narrowing, it still exists in many countries and especially in rural areas. In many settings, parents prefer boys over girls due to social norms around women's domestic duties and the consequently higher expected returns to boys' education. In poorly connected rural areas, schools and health services are often far away, making it riskier for girls to reach them safely (WHO, 2013).

Second, the gender gap in access to productive assets and in the chances of accumulating those assets persists in rural areas. This puts young women on a lower trajectory in terms of economic opportunities that is difficult to correct later on. Though data on asset ownership and control that are disaggregated by gender and age are scarce, the evidence in countries where such data do exist shows that men own more assets of much greater value (Deere and Doss, 2006). In Ghana and Ethiopia, for example, young rural women mainly own consumer durables, while young rural men own more productive assets (Doss et al., 2018). With fewer, less valuable and less productive assets, women are at a disadvantage when seeking to use their assets as collateral for financial services, secure themselves against income shocks and attain higher incomes through the use of productive assets (Dupas and Robinson, 2013; Meinzen-Dick et al., 2014). Nevertheless, the evidence suggests that women's control over resources affords greater benefits in terms of their children's health, nutrition and education and, by improving their agency, in terms of their own well-being (Quisumbing, 2003).

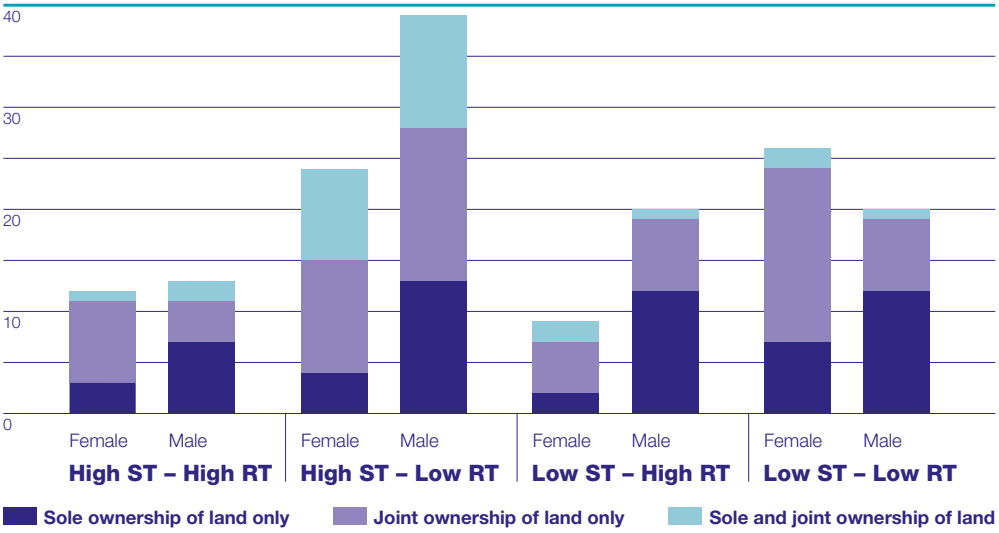
Land is one of the most important productive assets in the rural areas of developing countries. Control over land and its secure tenure are associated with better access to markets, social institutions and other natural resources, together with a greater capacity to deal with shocks and greater incentives to invest in agriculture and other productive activities (World Bank, FAO and IFAD, 2009). In SSA, women own less land than men, regardless of their age and of how ownership is conceptualized (Doss et al., 2015). In Latin America, significantly fewer women than men own farms, and female-owned farms are smaller than male-owned ones (Deere and Doss, 2006). This puts rural women at a disadvantage.

Young rural women are half as likely as young men to own land by themselves

FIGURE 3.1 shows the percentage of rural youth who own land, either solely or jointly, by gender and country transformation category. The level of transformation does not seem to influence gender differences in terms of sole ownership of land. In the least transformed countries, young women own more land than young men, but this difference is because

FIGURE 3.1 Young women are less than half as likely as young men to own land by themselves, and this difference is affected very little by a country's level of transformation[19]

Percentage of land ownership by gender, country transformation category and type



Note: The figure plots the share of land ownership by ownership type, gender and country transformation category. ST: structural transformation; RT: rural transformation.
Source: Doss et al., 2018, based on Demographic and Health Surveys (DHS) data.

a larger share of them have joint ownership, which is probably attributable to the higher likelihood that women in this age group will be married.

The gendered constraints on land access take on greater importance when considered in the light of several dynamics of change that are currently under way. First, the rising life expectancy of parents means that it will take their children longer to inherit land from them. At the same time, growing population densities are reducing the amount of available land per capita and pushing land prices up (Yeboah et al., 2018) (see chapter 6). Even if land becomes available, inheritance laws generally favour men over women (Kosec et al., 2018; Fafchamps and Quisumbing, 2005), and gender norms often restrict access to the financing needed to purchase land. For example, while 40 per cent of young Burundian men expect to inherit land, only 17 per cent of young Burundian women have similar expectations (Berckmoes and White, 2014). Finally, climate change is expected to heighten land ownership constraints for rural youth, thereby potentially further exacerbating the challenge for young rural women (see chapter 7). Land rental markets can facilitate young people's access to land, but there is as yet little evidence on the question of whether or not young women face discrimination in these markets (Yeboah et al., 2018) (see chapter 6).

20 The following Demographic and Health Surveys (DHS) datasets were used: Colombia 2015, Dominican Republic 2013, Egypt 2014, Ghana 2014, Guatemala 2014/15, Honduras 2011/12, Indonesia 2012, Kyrgyzstan 2012, Namibia 2103, Peru 2012, Philippines 2013. The high structural and low rural transformation category (high ST-low RT) includes the following datasets: Bangladesh 2014, Cameroon 2011, Gambia 2013, India 2015/16, Lesotho 2014, Senegal 2016, Zambia 2013/14. The low structural and high rural transformation category (low ST-high RT) includes Côte d'Ivoire 2011/12, Chad 2014/15, Nigeria 2013, Pakistan 2012/13, Tajikistan 2012. The low structural and low rural transformation category (low ST-low RT) includes Afghanistan 2015, Benin 2011/12, Burkina Faso 2010, Burundi 2010, Cambodia 2014, Ethiopia 2016, Guinea 2012, Kenya 2014, Malawi 2015/16, Mali 2012/13, Mozambique 2011, Myanmar 2015/16, Nepal 2016, Niger 2012, Rwanda 2014/15, Sierra Leone 2013, Tanzania 2015/16, Togo 2013/14, Uganda 2016. Data from Bangladesh, Egypt, Tajikistan and Peru are included only for estimates of the proportion of youth who ever married, as there are no data on male youth for other outcomes.

Gender norms constrain young women's connectivity and agency

Gender roles constrain young women's connectivity by restricting their mobility and hence their job choices, particularly in rural areas. One reason for this is the existence of social attitudes whereby it is seen as inappropriate for young women to move about outside their household without the guardianship of an older woman or a male relative or husband. Young women also face safety risks on their way to school, work or public and private services due to the prevalence of gender-based violence (WHO, 2013).

Migration can offer an opportunity for young women to escape the confines of restrictive gender roles or to pursue a higher education. However, this option is restricted by the higher risks they face when on the move and the limited availability of assets to finance the move. Evidence from Haiti shows that young female migrants are less likely to receive financial support from their birth household than young male migrants (Heckert, 2015). These mobility constraints are, however, highly specific to each cultural context.

Constrained mobility also lessens young rural women's agency by limiting their access to networks that can enhance their economic, social and political participation. Where weak institutions for contract enforcement incline employers to rely on word-of-mouth recommendations, people without such networks will find it hard to demonstrate their skills. Beyond the economic sphere, limited mobility means that young rural women's visibility in society remains low, which may prevent with their needs from being heard and addressed. These patterns often lead to a low level of participation by young women in youth-focused programmes (Chakravarty, Das and Vaillant, 2017; Doss et al., 2018).

Finally, inadequate public services interact with gender norms regarding "women's work" to further increase young women's time burdens (Dey de Pryck and Termine, 2014). Gender roles in most societies assign domestic and caregiving work to women. In rural Ghana, for example, mobility constraints and household work burdens were found to have more negative implications for the schooling outcomes of girls than of boys (Porter et al., 2013). Access to public water sources and electrical power plays a central role in reducing the time that these duties require. In rural areas, the provision of such services is scarce, and women therefore have to cover longer distances to obtain them (Porter, 2008; Porter et al., 2011). Restricted mobility then makes it even harder for young rural women to access these services. Improvements in public infrastructure are thus likely to bring high pay-offs for young rural women.

The constraints faced by young rural women result in occupational choices that generate lower returns, and this pattern is often accentuated in less connected areas

Women's occupational choices are often dictated by what is deemed socially appropriate and legally condoned. Even today, 104 countries in the world have laws that forbid women from working in certain occupations (World Bank, 2018).

In agriculture, established gender norms are such that men are often assigned the more physically demanding tasks but also the better-quality plots and more profitable crops. For example, on Ethiopian farms, ploughing, sowing and threshing are seen as men's work, while women tend household gardens, clean animal pens and milk the livestock. Though women may work alongside men in the fields, they are often regarded as "helpers" rather than workers (Gella and Tadele, 2014). This makes it much more difficult for women, particularly young women, to increase their productivity in farming activities (Meinzen-Dick et al., 2014; Peterman, Behrman and Quisumbing, 2014; Oseni et al., 2015; Kilic, Winters and Carletto, 2015).

Similar gender divisions prevail in rural non-farm businesses, where women engage more in food preparation and delivery, while men focus on machinery- and technology-intensive jobs with higher labour productivity potential (Dey de Pryck and Termine, 2014). Because access to land and other productive assets is more restricted for young women, it is likely that the gender productivity gap is even wider in the youth population. Although these constraints are likely to be less evident in more connected areas (near secondary cities and rural towns and in the DO and SMLA spaces in the rural opportunity continuum), structural discrimination against young women on the demand side may limit their participation and occupational choices even in these areas (see chapters 1 and 2).

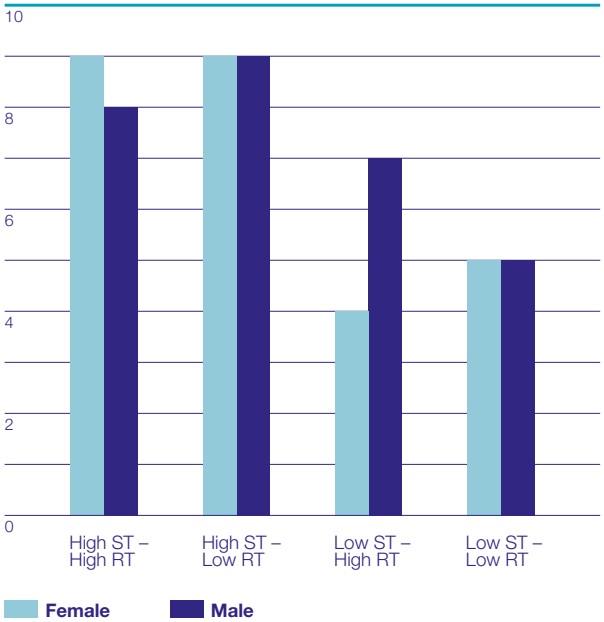
Rapidly transforming rural economies generate opportunities for young women to engage in the economy and help to lift some of the constraints that they face. When young rural women become more educated and economically active, parents have more incentives to invest in their daughters, young women themselves are more likely to have fewer children, and employers become more likely – although perhaps this effect will be lagged – to hire them. Earning their own income empowers young women and positively affects their children's outcomes, thus improving the prospects for the next generation (Quisumbing, 2003; Chari et al., 2017). These interlinked outcomes help drive the rural transformation process, creating a virtuous cycle that dramatically improves young rural women's economic and social prospects.

Rural transformation and the rural opportunity space shape young rural women's livelihoods

The gender gap in education narrows as the structural transformation process advances, but the rural transformation process by itself does not have this effect

FIGURE 3.2 Structural transformation reduces the gender gap in education, but rural transformation alone does not

Number of years of schooling, by gender and country transformation category



Note: ST: structural transformation; RT: rural transformation.
Source: Doss et al. (2018) based on Demographic and Health Surveys (DHS) data.

Structural and rural transformation shape young rural women's livelihoods by influencing everything from their education and their marriage and childbearing choices to their selection of an occupation. In less transformed countries, the educational attainment of all youth remains low and young women lag behind young men (see **FIGURE 3.2**). In countries with higher levels of structural transformation, all categories of rural youth have higher levels of education, and young rural women are at no disadvantage in this regard. In countries with high levels of both structural and rural transformation, women even outperform men. In contrast, the rural transformation process alone does not correlate with a smaller gendered education gap. In fact, this gap is wider in countries with low levels of structural transformation but high levels of rural transformation than it is in the least transformed countries. When educational attainment is measured in terms of harmonized learning outcomes, a similar pattern is found, although a small gender gap remains even in the more transformed countries (Fox, 2018).

Household transformation categories also correlate with young rural women's educational attainment. The household data for 13 low- and middle-income countries in LAC, APR and SSA presented in chapter 2 point to a very similar relationship between gender gaps in education and household transformation type. The gender gap in secondary education is wide in households that have transitioned out of subsistence farming and into commercial agriculture without diversifying into non-farm activities. This gap narrows only among households that earn larger shares of their income off the farm – mirroring the effects of structural transformation at the country level.

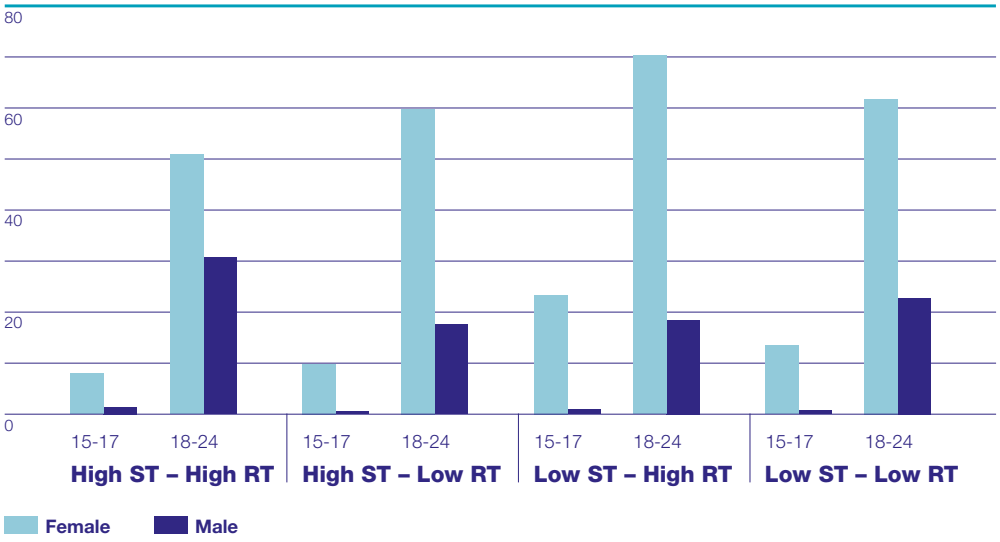
The number of girls entering into early marriages also falls dramatically in step with structural transformation, but not with rural transformation

Early marriage is one of the reasons for lower levels of educational attainment among young rural women. Marriage before the age of 18 is more prevalent in countries with low levels of structural transformation, but young rural women marry earlier than young rural men regardless of their country's transformation level. These rates are especially high in sub-Saharan Africa. Among rural women between the ages of 18 and 24 in all country groups, 60 per cent are married (see **FIGURE 3.3**). In contrast, only around 20 per cent of rural men in this age group are already married. This indicates that young rural women are likely to be married to older men (above the age of 24). This pattern is further confirmed by the larger share of rural adolescent girls (15-17 years) who are already married; almost no adolescent boys in this age group are married. Marriages contracted before the legal age for marriage are more common in less structurally transformed countries, but this is heavily dependent on the cultural context.

Marriage is associated with childbirth in most cultural contexts. Social norms exert a strong influence on the age at which a woman has her first child, birth spacing and the total number of children desired, women's agency, family planning knowledge and availability, and the life expectancy of infants and children. Young women between the ages of 15 and 24 years want to have fewer children than the average desired number for all women; in addition, the stated ideal number of children decreases as population

FIGURE 3.3 Structural transformation is associated with lower rates of early marriage among rural girls, but rural transformation alone is not

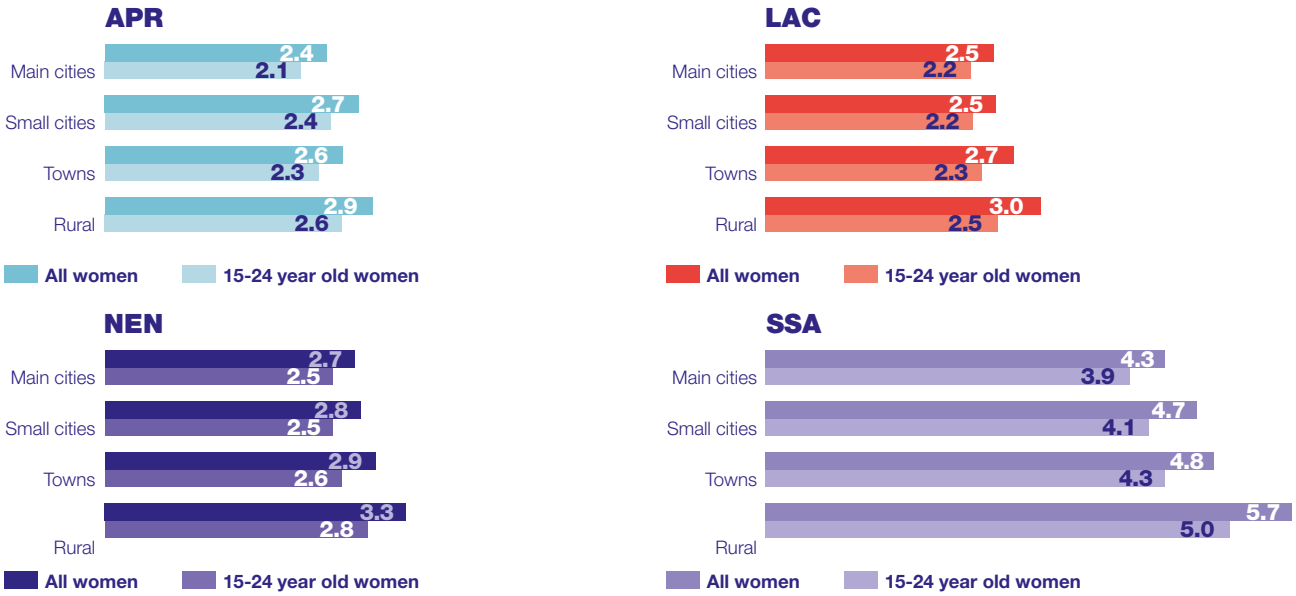
Percentage of ever-married youth by age, gender and country transformation category



Note: The figure plots the proportion of ever-married youth, by age, gender and country transformation category. ST: structural transformation; RT: rural transformation.
Source: Doss et al. (2018) based on Demographic and Health Surveys (DHS) data.

FIGURE 3.4 Rural women want more children than urban women, and women in SSA want more children than women in other regions

Ideal number of children identified by women, by age group, region and rural-urban gradient



Source: Demographic and Health Surveys (DHS) data and Stecklov and Menashe-Oren (2018).

density increases (see **FIGURE 3.4**). Sub-Saharan Africa, however, stands out in this respect. Even young women in cities voice a desire for a larger number of children than women (young and older) in the rural areas of other regions. High infant mortality rates in rural areas of SSA, especially for young mothers, may partially account for these high fertility rates (see chapter 5) (Stecklov and Menashe-Oren, 2018; De la Croix and Gobbi, 2017).

Two conclusions follow from an analysis of these patterns. First, public health investments have not reached the more remote rural areas in this region: the contraception needed for successful family planning remains underprovided in many countries (Bradley et al., 2012). Second, while evidence from various countries supports the argument that higher education and female labour force participation reduce the desired number of children (Martin, 1995; Bongaarts, 2010 Keats, 2014; Cannonier and Mocan, 2014; Lavy and Zablotsky, 2011), young women in SSA appear to expect no more than small pay-offs from their education and their participation in the labour force.

Labour force participation rates for young rural women are much lower than they are for young rural men, and do not vary systematically with the country transformation or the rural opportunity space typologies

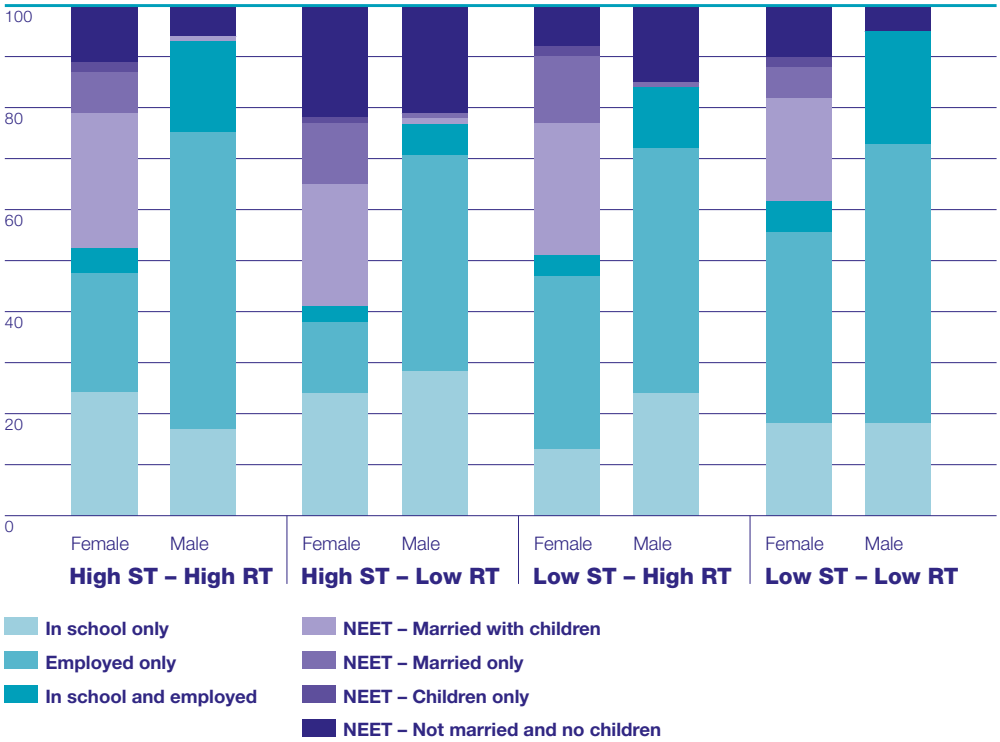
An early transition into marriage and parenthood impedes the entry of young rural women into the labour force. An important component of the transition into adulthood is the school-to-work transition. How much education young people acquire and how easily they find employment after leaving school are important determinants of the economic path they will follow over the course of their lives (Fox, 2018). More education is generally associated with easier access and higher returns to employment.

However, structural transformation is not necessarily associated with a decrease in the employment gap between young rural men and women. Two key patterns of school-to-work transitions for young rural men and women persist across all transformation levels (see **FIGURE 3.5**). The share of employed rural youth is in all cases higher among young men, and the share of rural youth not in employment, education or training (NEET) is in all cases higher for young women. Most of these differences can be explained by the fact that more women in this age group are married and/or have children. The share of NEET young rural women who are neither married nor have children is comparable to the share of NEET young rural men in most countries. In India, however, 25 per cent of young rural women are NEET even though they are not married or raising children (this is reflected in the large size of the portion of the column for females shown in light blue in the high ST-low RT category in **FIGURE 3.5**). This statistic points to the existence of structural discrimination against young women's participation in the Indian economy and society (Doss et al., 2018).

Within countries, higher population densities – correlated with greater potential connections to markets, information and ideas – do not correlate with higher labour force participation rates for young women. **FIGURE 3.6** presents the results of calculations using household data for 13 countries to produce estimates of the probability for young rural women and men to be either in school, in school and employment, in employment only or none of the above. Young women are significantly more likely to be in school only or neither in school nor employment, while young men are highly likely to be employed only or while still in school. These patterns change somewhat along the rural-urban gradient but the percentages of persons who neither work nor attend school remain very high in all

FIGURE 3.5 Large percentages of young rural women are not engaged in employment, education or training. Marriage and child-rearing tasks are the main explanation for this

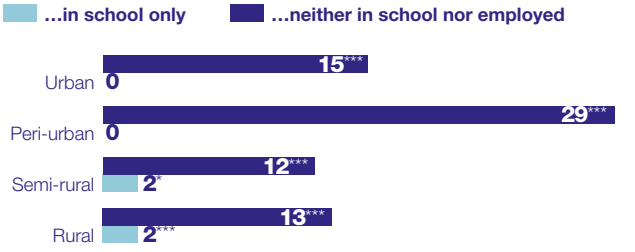
Percentage of rural youth in different activities by gender and country transformation category



Note: This figure plots the activity status of rural youth between the ages of 15 and 24, by gender and country type. ST: structural transformation; RT: rural transformation; NEET: not in employment, education or training.
Source: Doss et al. (2018), based on Demographic and Health Surveys (DHS) data.

FIGURE 3.6 Young women are significantly more likely to be neither employed nor in school, especially in peri-urban areas

Percentage point difference along the rural-urban gradient between the probabilities of young women and men being...



Notes: The figure plots the differences between young women's and men's probability of being in one of these two categories of school-to-work transitions. Level of significance: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.
Source: Authors' estimates based on data from 12 household surveys conducted in LAC, SSA and Asia (excluding Bangladesh).

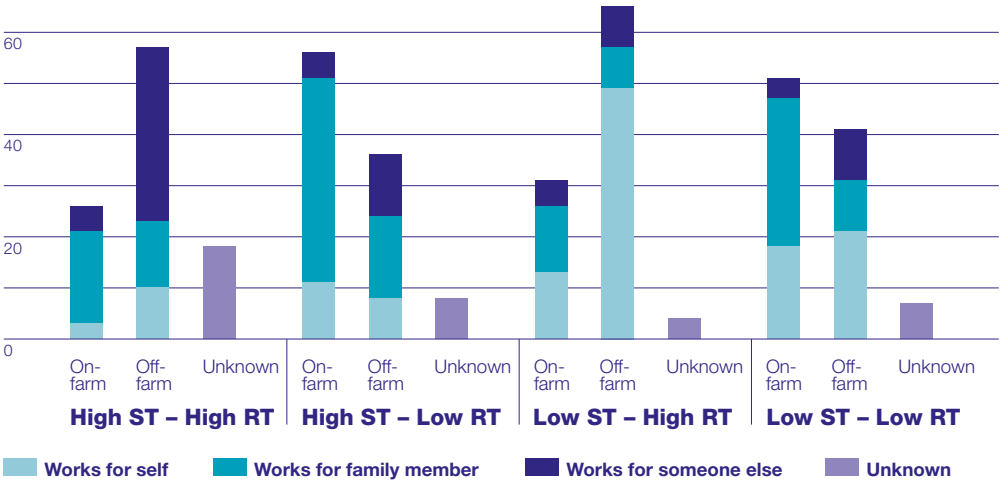
areas. In peri-urban areas, young women are almost 30 percentage points more likely than young men to be neither in school nor to be working, while the differential is between 12 and 15 percentage points in all other areas.

One notable pattern for women who are working is related to whom they work for. Among young rural working women, those who work on a farm mainly work for a family member, which may reduce their control over the income that they generate (see **FIGURE 3.7**). Research shows that women's off-farm employment income makes a significant contribution to their economic empowerment in many contexts (Buvinić and Furst-Nichols, 2014). In Nigeria, for example, young women prefer off-farm work because they can control their earnings, whereas, when they work on the family farm, other household members control what is done with the income (Bryceson, 2002). Young women's engagement in off-farm employment can thus increase their control over income and strengthen their intra-household bargaining positions and, hence, their agency.

In less transformed economies, around 20 per cent of young rural women are employed on farms as own-account workers. More research is needed on this segment of the population in order to assess the challenges they face. The literature indicates that there are significant differences in productivity between plots managed by males and females, and structural issues appear to account for the majority of this productivity gap (Kilic, Winters and Carletto, 2015). Given that access to land and other productive assets is more restricted for young women, it is likely that the gender productivity gap is even wider in the young population. However, no research results on this subject appear to be available.

FIGURE 3.7 Young rural women working on farms mainly work for a family member, while when they work off the farm, they are chiefly working for someone else or on their own account

Percentage of employed young rural women, by work sector, type of employer and country transformation category



Notes: The figure plots the percentages of employed young rural women (15 to 24 years of age), by work sector, type of employer and level of structural transformation. ST: structural transformation; RT: rural transformation.
Source: Doss et al. (2018) based on Demographic and Health Surveys (DHS) data.

The work performed by young women who are employed varies greatly with education and over the rural-urban gradient within countries

Wage employment is typically a highly sought-after form of employment in developing economies, especially if it is somewhat formal and thus more stable and potentially offers social benefits. Access to off-farm wage work is therefore an important indicator of the quality of work that a young person can attain. Data from 13 developing countries show that access to such work varies significantly depending on a young rural woman's level of education and over the rural-urban gradient within the rural opportunity space. Two patterns stand out (see **FIGURE 3.8**).

First, secondary education is significantly correlated with an increased likelihood that a young rural woman in the labour force will obtain wage employment off the farm. The difference associated with education is 10 percentage points and above in rural and semi-rural areas, decreasing to 7 percentage points in peri-urban areas.[21] Thus, the probability of obtaining this kind of employment increases with secondary education in the most rural areas,[22] where fewer such opportunities are available.

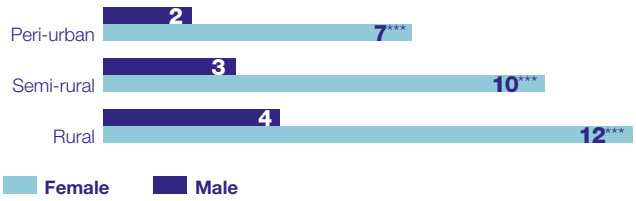
Second, the impact of a secondary education is greater for females than for males in all areas. This is perhaps not surprising, since males without a secondary education are much more likely than girls without a secondary education to have found wage employment.

Though this finding is not reflected in the figure, the analysis also revealed that residence in areas of greater commercial potential (proxied by population density) is associated with a much higher percentage of wage employment for both young women and young men, even for those without a secondary education. For young women with no more than a primary school education, the share of their total work effort accounted for by wage employment is more than three times higher in peri-urban areas than it is in rural areas (about 9 per cent versus approximately 33 per cent).

In their study of five African countries, Van den Broeck and Kilic (2018) found that the gender gap in off-farm wage employment declined in rural areas between 2010 and 2016. They show that marriage reduces women's and increases men's participation in off-farm employment, which points to the role that intra-household dynamics and social norms play in determining women's economic participation. Contrary to what one might expect, the most common sectors of off-farm wage employment in rural areas are not part of the agrifood system (AFS). In the 13 countries studied in this report, the wage employment share of youth in the AFS is relatively low even in rural areas (see **FIGURE 3.9**). However, young women are equally likely to work in the AFS as young men, indicating that, as this sector grows, more opportunities for young rural women will also become available (Tschirley et al., 2015) (see chapter 6).

FIGURE 3.8 Secondary education is associated with enormous increases in young rural women's access to wage labour

Percentage point difference in the probability of young women or men with secondary schooling being wage earners compared to those with less education, along the rural-urban gradient



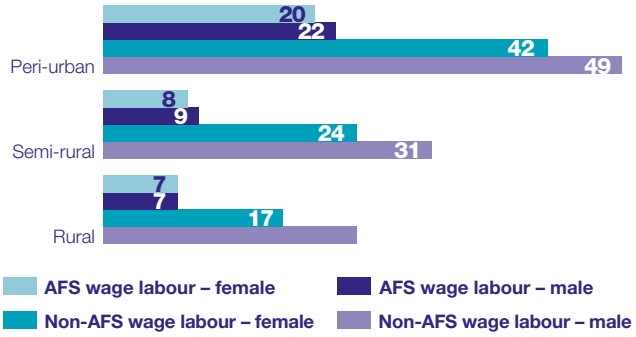
Notes: The figure plots the differentials for each category of the rural-urban gradient between young rural women's and men's probability of being in wage work if they have a secondary education compared to the probability for young women and men who have only a primary education or less. Level of significance: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.
Source: Authors' own calculations of the differentials based on data from 13 household surveys conducted in LAC, SSA and Asia.

21 These results should be interpreted with caution, as the surveys did not fully control for other unobserved factors that may be associated with access to wage work.

22 As noted in chapter 2, the term "rural" is used to refer to all three of the less densely populated areas in the four-category rural/urban classification. The other two non-urban areas are semi-rural and peri-urban.

FIGURE 3.9 Young women are equally likely to work in the AFS as young men

Percentage of youth in wage labour along the rural-urban gradient, by gender and sector



Notes: The figure plots the percentages along the rural-urban gradient of persons between the ages of 15 and 24 years who are wage earners in the AFS or in a non-AFS sector.
Source: Authors' own calculations based on data from 13 socio-economic household surveys conducted in LAC, SSA and Asia.

Programmatic agenda for empowering young rural women

Educational and health outcomes for young women have improved significantly over the last two decades. At the same time, the structural and rural transformation processes are opening up opportunities for everyone in rural areas. Yet young rural women generally continue to be at a disadvantage, and sometimes deeply so, due to the multiple layers of exclusion discussed earlier. Redressing this situation will require a programmatic approach that deals with the specific constraints that young rural women face and that targets both the productive and reproductive spheres of their lives.

The evidence suggests that the majority of existing youth employment programmes have failed to address gender-specific constraints in an effective enough manner

There is very little evidence on programmes designed to boost employment among young rural women because most of the interventions that have been evaluated have not been ones that specifically targeted this segment of the population. Reviews of youth employment initiatives in low- and middle-income countries have covered very few programmes in rural areas. Overall, vocational training initiatives do not seem to have been very effective in raising youth employment rates (Fox and Kaul, 2018; Fox, 2018). Reviews of programmes on the economic empowerment of adolescent girls (Baird and Özler, 2016) and of programmes focusing on young women's employment (Chakravarty, Das and Vaillant, 2017) have found that most programmes have an urban bias. One programme that was implemented in urban and rural communities stands out for its success in the productive and reproductive empowerment of young women: the Empowerment and Livelihoods for Adolescents (ELA) programme of BRAC International (see **BOX 3.1**).

The existing evidence suggests that young women fare worse than young men or older women in part because their lower initial endowments or heightened constraints prevent them from participating in wage-work and self-employment promotion programmes (Chakravarty, Das and Vaillant, 2017; Doss et al., 2018). Young women in rural areas are probably even more constrained, as discussed earlier in this chapter. Most of the existing programmes have not addressed gender-specific constraints such as the distance from the programme site and the lack of childcare support or access to credit, which is more limited for young women. These oversights have likely been contributing factors in these programmes' failure to have a major impact or their high dropout rates. Designing programmes for young rural women thus requires a careful assessment of their situational contexts and binding constraints.

In agriculture, interventions are increasingly being designed to be responsive to constraints that women in general face, but little attention has been paid to the additional limitations of younger women. Gender mainstreaming has been a long-standing focus of attention in agricultural development initiatives, and there are a number of success stories in this connection in some areas (World Bank, 2011). For example, farmer field schools (FFSs) in Kenya, Tanzania and Uganda have been successful in reaching female

farmers (50 per cent of the participants have been female) and resulted in significant income gains, with relatively larger gains for women in Uganda (Davis et al., 2010). Improving the productivity of female-run farms is particularly important in areas where more women are farming than men and where productivity gaps remain. It will be important to determine whether and how constraints that reduce productivity are disproportionately affecting young rural women. For example, not enough research has yet been done to assess how land constraints may be addressed differentially for rural young men and women through the land rental markets that are rapidly emerging in some transforming economies (see chapter 6) (Yeboah et al., 2018).

Reducing fertility and increasing schooling and labour force participation among young rural women are complementary targets that contribute to their empowerment and a faster pace of rural transformation

The productive participation of young rural women in the economy can significantly speed up the rural transformation process. To increase young rural women's labour force participation and their productivity on and off the farm, investments need to provide direct ways of improving their human capital (especially in less transformed countries), address the constraints that are specific to them and complement targeted interventions with improvements in overall rural development processes that will boost productivity.

While primary schooling is almost universal, there are still large gaps in secondary education and all the more so in the case of girls. Two types of interventions are needed. One is to increase the availability of secondary schools in rural areas for both boys and girls alike. The other is to improve connections to schools and to make travel to the schools and back and the schools themselves safer for girls. For example, the provision of bicycles to rural girls in India as part of a conditional cash transfer (CCT) programme increased secondary school enrolment by 30 per cent, as this made the trip to school faster and safer (Muralidharan and Prakash, 2013). Building gender-differentiated toilets in schools also helps to keep adolescent girls in school (Adukia, forthcoming).

Access to productive assets, especially land, can be improved through gender-sensitive land reforms (Ali, Deininger and Goldstein, 2014) and land rental markets that ease land constraints (Yeboah et al., 2018). Such interventions will challenge cultural gender norms and may have unintended negative effects if not carefully implemented.

BOX 3.1 The BRAC Programme on Empowerment and Livelihood for Adolescents (ELA)

The Empowerment and Livelihood for Adolescents (ELA) programme comprises a set of interventions that are being implemented by the non-profit BRAC Foundation in order to improve the lives of adolescent girls in multiple dimensions. The programme offers girls training in vocational skills and life skills, along with a safe place to meet and socialize with other adolescent girls. The organization operates in six countries with the world's highest child marriage and teenage pregnancy rates (Uganda, Tanzania, Bangladesh, Afghanistan, South Sudan, Haiti and Sierra Leone). The goal of the intervention is to empower girls by unlocking their potential through education, life skills and livelihood opportunities.

What is special about this programme and is one of the main reasons for its success is its multidimensionality, as the programme interventions address both the productive sphere, by providing "hard" vocational skills that will enable adolescent girls to start small-scale income-generating activities of their own, and the reproductive sphere, by providing training in "soft" life skills aimed at building knowledge that enables girls to make informed choices about sex, reproduction and marriage. The other novel aspect of this programme is that it does not work through schools but rather in designated "girls' clubs", which are safe spaces close to home where school dropouts as well as girls who are attending school can discuss problems with their peers in small groups and build their social networks, away from the pressures of family and male-centred society.

In the case of Uganda, after four years in operation, the programme had increased the likelihood that girls would engage in income-generating activities by 48 per cent, with the bulk of this increase being attributable to increased participation in self-employment. Teenage pregnancy rates fell by 34 per cent, early entry into marriage/cohabitation was reduced by 62 per cent, the share of adolescent girls reporting having had sex unwillingly in the past year was 5.3 percentage points lower in treated communities than in the control communities, and the girls' stated desires regarding the ages at which they wished to marry and start having children were moved further into the future (Bandiera et al., 2018). Furthermore, at a cost of US$100 per participant, the programme has been proven to be highly cost-effective and has been seen to be applicable across countries and highly scalable (Kashfi, Ramdoss and MacMillan, 2012). The programme has thus helped to give a big push to adolescent girls' empowerment along potentially interlinked dimensions that are likely to set off a virtuous cycle of gains.

Source: http://www.bracinternational.nl/en/what-we-do/empowerment-livelihood-adolescents-ela/

For example, a land reform initiative in India that was intended to provide daughters with greater access to land instead ended up heightening the preference for male babies and increasing the rate of female feticide (Bhalotra, Brulé and Roy, 2018).

Higher levels of education and labour force participation significantly reduce fertility (Heath and Jayachandran, 2017). As shown by the ELA programme in Uganda, influencing young women's reproductive decisions has a significant impact on their livelihood choices in such areas as education and employment (Bandiera et al., 2018). An intervention in the Dominican Republic that helped to build stronger non-cognitive skills significantly improved young women's employment outcomes, increased their aspirations and reduced their fertility (Acevedo et al., 2017). Although this intervention was in urban areas, non-cognitive skills are equally relevant in rural areas, and similar education interventions aimed at complementing cognitive skills with non-cognitive ones are therefore needed in these zones. Expectations about labour market opportunities appear to have a significant impact on young women's livelihood decisions. Jensen (2012) reports that recruiting services that targeted women in rural villages of India over a timespan of several years succeeded in reducing the share of women between 15 and 21 years of age who married or had a child and raising their aspirations with regard to the possibility of continuing to work after marriage.

The structural and rural transformation processes can open up opportunities in "soft" manufacturing activities and services in which women may have a comparative advantage over men. Within the AFS, a meaningful number of opportunities is expected to open up for women in such areas as food preparation activities sited away from their homes (Tschirley et al., 2015) (see chapter 6) or emerging commercial farms (Maertens and Swinnen, 2012). In Bangladesh, the increase in low-skilled jobs in the garment sector has significantly increased employment among young women and delayed their age of marriage and the age at which they have their first child (Heath and Mobarak, 2015). Thus, the structural and rural transformation processes have the potential to increase young rural women's economic opportunities, which will, in turn, speed up the transformation process by boosting productivity and lowering fertility rates, thereby contributing to the realization of the demographic dividend.

Caution is called for, however, in assessing the potentially negative effects of increased female labour force participation. For example, Heath (2014) found that a greater incidence of domestic violence was associated with women earning their own incomes. It is also commonly known that working women under most circumstances continue to perform domestic work and are therefore shouldering even greater workloads. Finally, concerns about health and safety conditions in the workplace may be especially important in the case of young women (Fox, 2015).

Investments should be designed to help connect young rural women to markets and social networks in order to reduce gender-specific constraints and increase their productivity and agency

In the least transformed economies and in the least connected areas, the priority for investments should be to improve basic infrastructure. Although roads and ports benefit everyone, investments in water and energy sources and distribution systems can have a disproportionately large impact in reducing rural young women's time burden (World Bank, 2011). Better and more available health care should improve infant survival rates and mothers' health, along with family planning options (Bhalotra, Venkataramani and Walther, 2018; Ito and Tanaka, 2018; Bradley et al., 2012). In more highly transformed

economies, access to additional services (beyond water and energy, which typically are already available) that reduce young rural mothers' time burdens could be influential. While it is unlikely that childcare will be provided as a public service in low-income countries, there have been some experiences with time-sharing contracts among women in rural Senegal who work on horticulture plantations (Maertens and Swinnen, 2012). In more highly transformed economies with better infrastructure, extending childcare services to rural areas or introducing flexible, home-based self-employment arrangements could be options to pursue. The latter could be facilitated by mobile applications. To fully exploit the transformative potential of ICTs, however, the improvements achieved thus far in providing access to mobile phones and the Internet in rural areas need to be expanded upon, and inequalities in access between young men and women in some areas need to be addressed (Bertini, 2011).

Emerging off-farm opportunities in growing secondary cities and rural towns are promising to raise women's workforce participation and productivity. Whether young rural women will be able to seize these opportunities will depend on their education, their access to productive assets and the cultural context that conditions their access to value chains and markets.

Aside from physical infrastructure investments, investments are needed in ways that will help young rural women be connected to economic and social networks. Some farmer field schools have been gender-inclusive, but they have yet to be assessed with regard to their capacity to include young rural women on an equal footing with young rural men (Davis et al., 2010). Business skills programmes have been shown to be useful for women (although they have not yet been evaluated on this specific point) because they help young women to overcome constraints on access to social networks and because they enhance peer interaction and learning, especially in socially conservative communities (De Mel, McKenzie and Woodruff, 2014; Valdivia, 2015; Field, Jayachandran and Pande, 2010).

Investments should empower young rural women to gain agency in making their livelihood choices, especially with regard to the age at which they marry and have their first child

Young women's ages at the time of programme interventions influences their livelihood choices. Bandiera et al. (2018), in a study focusing on rural Uganda, found that targeting adolescent girls while they were still in school through the ELA programme boosted their subsequent school attendance rates, raised their aspirations, led to greater job success and delayed the age at which they had their first child (see **BOX 3.1**). The success of this project suggests that the age at which young women are engaged in such training can significantly influence their reproductive choices. Furthermore, Chari et al. (2017) and Quisumbing (2003) have shown that delayed marriage, reduced fertility and female empowerment in the form of control over resources significantly improve children's health, nutrition and education outcomes.

Conditional cash transfer (CCT) programmes can, under certain circumstances, bring about a significant change in parents' investments in their daughters, and especially in their educations, in ways that will improve their life prospects (Chakravarty, Das and Vaillant, 2017). Female role models can play an important role in changing young rural women's aspirations and educational outcomes. In India, affirmative action in the form of quotas for women's local political representation has had a substantially positive effect on girls' education by changing girls' aspirations and their parents' aspirations for them (Beaman et al., 2012).

Increasing young rural women's sense of agency thus entails changing their aspirations and the attitudes of their parents, husbands and society at large. Given the influential nature of cultural norms and the difficulty of changing them, programmes need to address young rural women's social and cultural environment. Along the same lines as the ELA programme, the Ishraq ("Enlightenment") programme in Egypt, a country with very conservative gender norms, has been working to improve educational, health and social opportunities for adolescent girls in rural areas of Upper Egypt since 2001. Brady et. al. (2007) assert that it has raised literacy rates, helped beneficiaries to develop life skills and build their self-confidence, and led to greater mobility and community involvement for participants. Crucially, the programme has engaged with the "gatekeepers" of young girls in conservative societies – parents, brothers and community leaders – and this has been a key element in its success. Approaches that involve all household members in such settings are believed to lower gender-specific barriers faster and in a more sustainable way. (For further information on the household methodology used by IFAD, see **BOX 3.2**.)

BOX 3.2 IFAD's household methodologies: empowering young rural women

IFAD is one of the leading development agencies which is applying household methodologies (HHMs) to improve intra-household gender relations and to uncover rural households' full potential. This methodology employs participatory methods at the household level that involve all members of the household, particularly women and young people. Women are usually discriminated against within the household, and young rural women face a triple burden, as discussed earlier, that often results in their needs being subordinated to those of their parents or other male members of the household. The purpose of this methodology is to detect inequalities in terms of responsibilities and decision-making power within the household with a view to strengthening the overall well-being of all members.

The HHM process involves the creation of a household vision, where members decide together where the household would like to be in two to three years' time. At this stage, young people gain a voice within the household by identifying their own visions and sharing them with other household members. The next step is the action plan, in which a household identifies the opportunities and actions needed to realize that vision. Intra-household relations can be redefined as a result, and opportunities for youth to play a role in achieving the household vision are identified. At this stage in the process, household members start to work towards their target for the year, with everyone playing their different and complementary roles and shouldering their particular responsibilities. A household can be considered to have "graduated" when the methodology has become embedded within the household planning cycle. The involvement of the community is essential in order to create a supportive environment in which households and individuals can undertake transformative changes.

Starting in 2009, IFAD has piloted different household methodologies in its grant and loan-financed operations, such as the household mentoring approach and the Gender Action Learning System (GALS). Building on lessons learned, IFAD has integrated HHMs into its programmes across sub-Saharan Africa and, to a lesser extent, in other regions. By mid-2015, more than 100,000 people had benefited from these methodologies as applied in IFAD-supported programmes and, by July 2017, HHMs were in the design stage or being implemented in more than 40 programmes in 28 countries. The benefits of HHMs are visible and tangible. Both women and men see that they benefit economically and personally from a more equal relationship with each other and with their children and, as part of the HHM process, they realize that inequalities in gender roles and relations can be part of the reason why they remain poor.

Key elements of household methogdologies

Community level and wider environment	Service provider and facilitator system	Household level
• Select communities • Secure support from leadership • Engage with men • Identify groups and their members • Identify households for individual mentoring • Establish partnerships • Provide implementation support	• Select approach: group-based or individual mentoring • Select and build capacity of facilitators	• Create a vision • Analyse the current situation • Identify opportunities and address challenges • Create an action plan with indicators • Implement with support from facilitators and peers • Monitor and keep on track • Graduate and ensure sustainability

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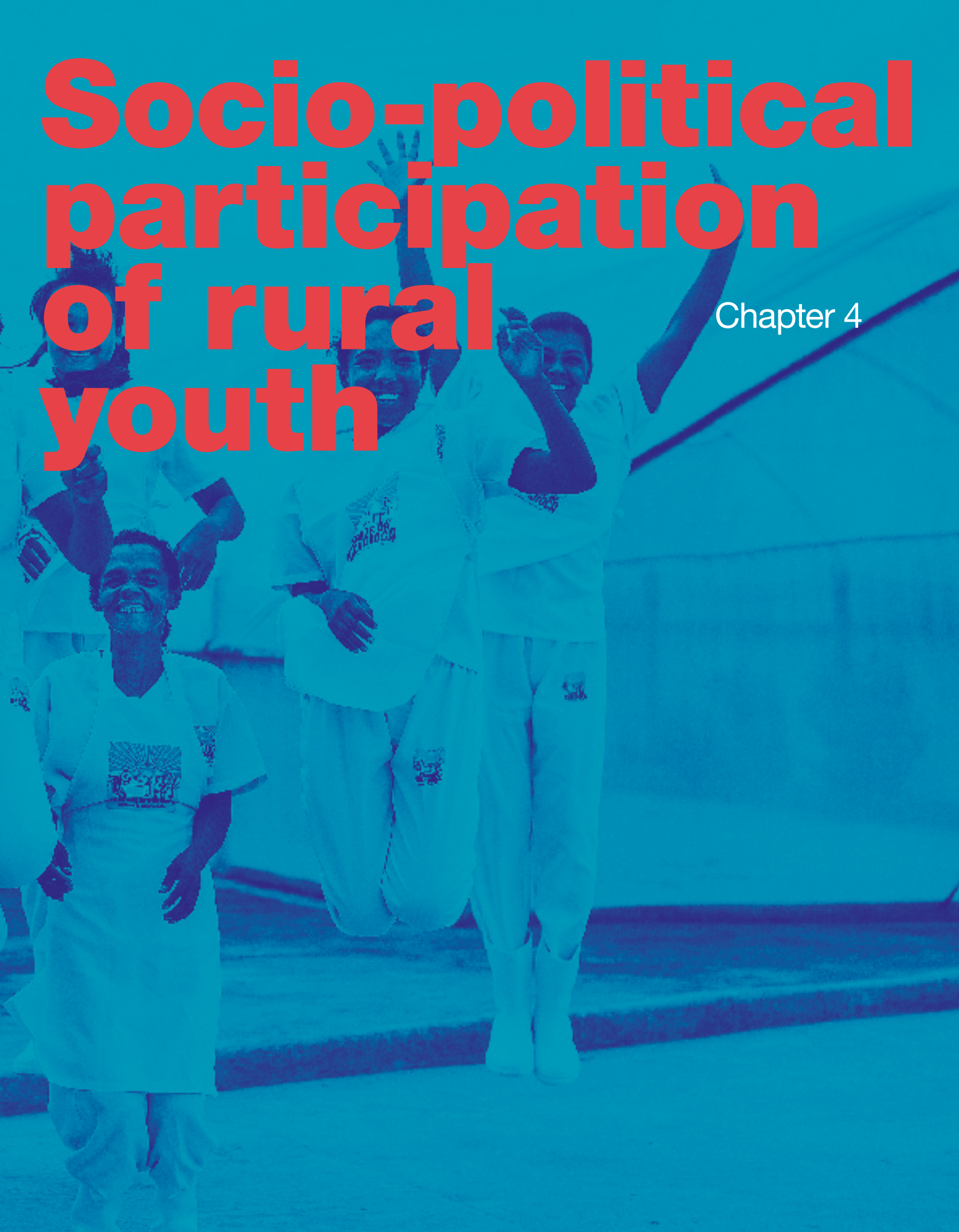
Socio-political participation of rural youth

Chapter 4



Rural youth participation matters

The three foundations for youth-centred transformation – productivity, connectivity and agency – can be effectively integrated into rural development policies only if rural youth have the opportunity to actively participate in the social, economic and political life of their communities and countries. Rural youth participation in decision-making is both a means to an end and an end in itself. It helps to make interventions more responsive to young people's needs and it helps to make interventions more effective by fostering greater ownership of policies and initiatives. At the same time, participation has been recognized as a fundamental right in several international conventions and declarations, including the Universal Declaration of Human Rights, the World Programme of Action for Youth and the Convention on the Rights of the Child (Trivelli and Morel, 2018). In addition, and perhaps more importantly, the participation of young people is regarded as a way to enhance their agency by building and strengthening social and human capital, developing skills, boosting confidence and self-esteem and increasing their awareness of their rights (SPW-DFID-CSO, 2010).

Participatory mechanisms and strategies are needed at the national and local levels to ensure the active and effective participation of rural youth all along the policy and programme decision-making process. These mechanisms can either be State-driven (for instance, local assemblies) or stakeholder-driven (for example, youth advisory panels in development programmes run by international agencies or youth-driven local organizations). What is important is that they participate and are included in the framing, design, implementation, monitoring and evaluation of the policies and programmes that concern them. This becomes even more important as youth lifestyles become more divergent as a result of young people's increasing connectivity to other places, people and ideas and as a consequence of the dynamics of change discussed in chapter 1, all of which makes it more challenging for decision makers to adequately address youth concerns and issues surrounding their well-being (UNDESA, 2003; YouthPower, 2017a).

Since rural youth development policy should be embedded in broader rural development strategies, participation mechanisms for young people should also be designed to fit into those wider frameworks. Governments usually engage youth, if they engage them at all, only in connection with "youth-related issues" (such as volunteering and sports) rather than involving them in discussions and decisions on a wider range of topics of concern to them (such as education, employment, and sexual and reproductive rights). As put by Jennings et al. (2006) young people should be integrated in activities that promote "meaningful participation", that is "activities relevant to their own lives, ones that excite and challenge them and 'count as real'". This can be done by creating a conducive environment that "encourages and recognizes youth while promoting their social and emotional competence to thrive" (YouthPower, 2017a). This is particularly important for rural youth, who face multiple constraints as they seek to make the transition to becoming productive and connected individuals who are in charge of their lives.

Why participation matters

Rural youth aspire to more and better things

Rural youth participation and inclusion are critical in situations in which there is a mismatch between the aspirations of young people and their social and economic realities; this is referred to as the "aspiration-attainment" gap, and it has been widely reported on in all developing regions (see White, 2012; Leavy and Smith, 2010; and OECD, 2017a). The increased flow of information that has been made available by widely accessible digital technologies may have also contributed to an increase in rural youths' expectations about their future. This was clearly shown in a recent survey conducted via text messaging that was commissioned by the German Federal Ministry of Economic Cooperation and Development. In that survey, 10,000 rural youth between the ages of 18 and 35 in 21 African countries were asked about their future prospects, visions and values (BMZ, 2017). The results of the survey indicated that 93 per cent of rural youth expect to see a big improvement in their lives in the next five years.

The aspirational gap among rural youth was also clearly evident in the results of another recent study conducted by the Organisation for Economic Co-operation and Development (OECD) (2018). This study found that "the vast majority (76 per cent) of rural youth aspire to work in high-skilled occupations, but in reality few (13 per cent) are in such occupations. Urban youth also aspire to high-skilled occupations (82.4 per cent), but by comparison with rural youth, more of them get these positions (21.3 per cent). Additionally, less than half (39 per cent) of rural young workers have the level of education required for their current occupation" (OECD, 2018). The report also indicates that skill mismatches are a major issue for rural youth (compared to urban youth), with 17.9 per cent being overqualified and 42.7 per cent being underqualified. It also states that the mismatch is more prominent in agriculture than in other sectors (OECD, 2018).

Increased school enrolment has also played a part in rural youths' rising aspirations and their expectations of better-paying and more secure employment, even while the economies of most low-income countries are still structured around production by household farms and firms operating with limited supplies of outside labour – especially in countries with low levels of transformation (Fox, 2018). Thus, the desire of rural young people to have a job that draws on the formal education or training that they have received contrasts with the actual opportunities that they have to put those skills and values into practice. Young people of both genders are confronted with an aspiration-attainment gap and may tend to become disillusioned when their opportunity space is such that they have difficulty in realizing their dreams and find themselves with no other option than to work on their family's farm (Elias et al., 2018). It should be recognized that some rural youth (regardless of their level of education) aspire to a farming life but one that is positioned in spaces that are better connected and sustainable; they also find, however, that they do not have a voice in creating those spaces (Giuliani et al., 2017).

Increased participation by rural youth in socio-political decision-making is a powerful way to leverage their aspirations and to inform youth-related and wider rural development policies and programmes. Engaging rural youth in the construction of their own future will also help to bridge the aspiration gap and reduce poverty by helping to lessen their social exclusion (Rajani, 2000; Ibrahim, 2011). Participation, therefore, should not be just a minor add-on but a core component of broader development strategies.

Rural youth face obstacles to their effective participation

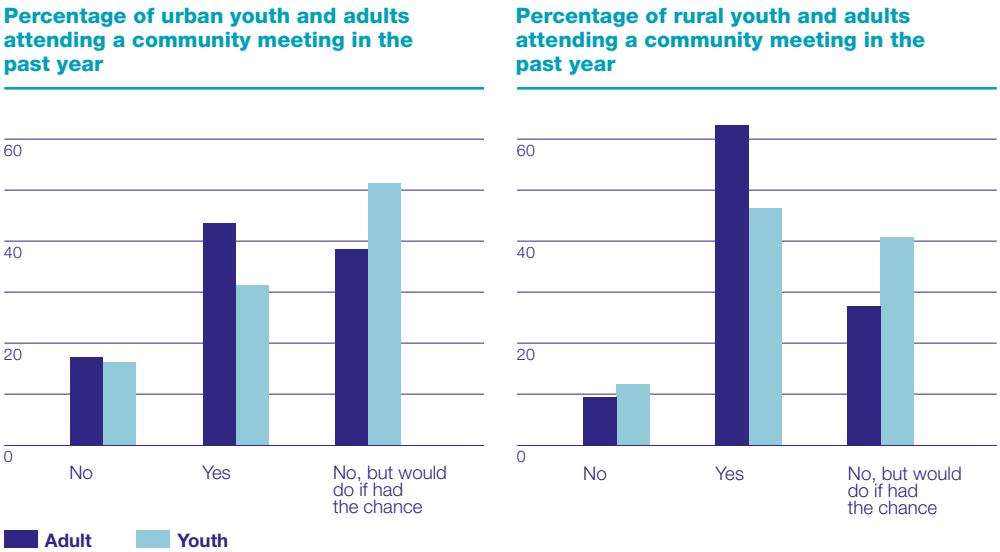
While their aspirations are high, rural youth are still one of the groups that is least engaged in the policymaking process. On the one hand, promoting young people's participation in rural areas is particularly challenging. As the structural and rural transformation processes unfold, rural settings in developing countries become increasingly diversified. On the other hand, there are biases and barriers that limit or even prevent the active and effective participation of rural youth.

In remote areas (especially those situated in rural opportunity spaces subject to severe challenges), participation mechanisms are more complicated and more costly to implement because the necessary assets and skills to support those interventions are lacking and because their connections to urban centres, governments and other decision makers are poor. In these settings, youth can find a voice only at the community level. The results of a study based on 36 African countries indicate that youth are less likely than adults to engage in various forms of political participation, including voting and civic activism overall. Young people living in rural areas are 15 percentage points more likely to attend community meetings than their urban counterparts (see **FIGURE 4.1**). Yet their participation at the national level probably lags behind that of urban youth, although no empirical evidence is available on this point. Interventions designed to create mechanisms for improving rural youth participation at all levels of decision-making could be of significant help in enabling young people to shape policies that affect their lives, while also building non-cognitive skills.

A "hierarchy of exclusion" makes public participation difficult for rural youth. Living in a remote rural setting is a first level of exclusion which may then be compounded by a person's identity as a member of an indigenous people or another minority group, their youth and/or their gender. Different combinations of these factors of exclusion pose particular challenges in terms of participation. For example, engaging a young indigenous woman living in a remote rural area in any kind of participatory mechanism requires a great deal of effort and resources (Trivelli and Morel, 2018).

Gender may be the most widespread factor in the hierarchy of exclusion in rural areas, given the triple burden that young rural women are shouldering, as discussed in

FIGURE 4.1 Youth participate less than adults in general, but rural youth participate more at the community level



Source: Authors' own calculations based on Afrobarometer survey datasets covering 36 African countries.

chapter 3. Mobility constraints, lower literacy rates, lower levels of confidence, social norms and the persistence of gender inequalities at the household level reduce their visibility and opportunities for participation. For instance, although lately improvements have been observed in basic indicators of well-being for young rural women in Latin America (particularly those related to school attendance), rural women between 18 and 22 years of age continue to face challenges because institutional frameworks are biased against them (e.g. laws on land ownership that favour men and a lack of educational and training programmes for women in rural areas) (Trivelli and Asensio, 2014). To deal with these challenges, young rural women are taking positive steps in order to move forward. Trivelli and Asensio (2014) found that rural areas in four countries of Latin America are "defeminizing", as women (particularly young women) born in rural areas move to urban settings. This process, which started at least 20 years ago, shows that women are resisting the current status quo by moving to locations where better "landscapes of opportunities" are achievable (Sumberg et al., 2018).

Hierarchies of exclusion are related to the urban bias which is discussed in the general literature on the promotion of youth inclusion in public policies, and this bias is increasingly being challenged by policymakers and experts.[23] In fact, the level of rural transformation, the opportunities for participation and the associated challenges in the rural opportunity space and the types of households in which rural youth live are rarely recognized as relevant elements to be factored in when designing participation mechanisms.

Economic, institutional and social barriers play a critical role in limiting youth participation. In the case of Nigeria, Nlerum and Okorie (2012) found that the lack of economic resources is a major impediment for participation in development projects. Specifically, "age, marital status, educational level and previous experience in rural development had [a] significant relationship with participation." In addition, the fragility of the economic situation of rural youth can also limit their ability to engage in voluntary associations. As a consequence, rural youth organizations are few (OECD, 2018), and their limited connections with other social organizations, governments, development partners and donors (most of which are usually located in urban areas) make them prone to early dissolution (DFID, 2010). While this appears to be the most common type of situation, there are national initiatives that are aimed at providing a more accurate depiction of existing rural youth organizations. For instance, the National Secretariat of Youth in Peru maintains the National Registry of Youth Organizations, a comprehensive database of youth groups in the country. The database classifies organizations into 17 categories (for instance, sport associations, student associations, etc.) and includes information on location, main focus of work, point of contact, etc. (OECD, 2017b).

There are also institutional challenges associated with the application of existing policies on rural youth. The most important one is, as mentioned earlier, the urban bias of many youth programmes (OECD, 2017b). In addition, youth policies tend to be "youth-focused" rather than "youth-centred". In other words, they tend to consider young people as objects[24] of public policies rather than as agents whose concerns and perspectives

23 For a further analysis of the urban bias of employment programmes, see Microlinks (2017), which states: "Louise Fox, Chief Economist for USAID, opened the discussion, highlighting the customary categorization of youth employment as an urban issue, resulting in a lack of evidence for rural approaches. The invisibility of the challenges facing rural youth has, in turn, created blind spots for employment programming. The need to better understand youth's role in rural economic development is particularly important, as government and donor agencies will increasingly need to ensure that programming improves rural, semi-urban, and peri-urban livelihoods for youth."

24 The terms "target groups" or "beneficiaries" are frequently used.

should inform the design and implementation of policies relevant to them (Nova Scotia Health Promotion and Protection, 2009), and this is particularly true in the case of rural youth (Vargas-Lundius and Suttie, 2014).

Adult-centrism is another impediment to youth participation. For example, youth in South Africa cannot engage in HIV programmes because of a number of different factors: (i) reluctance on the part of adults in the community to recognize the potential value of youth inputs and an unwillingness to regard youth as equals within the framework of project structures; (ii) a lack of support for meaningful youth participation from external health and welfare agencies involved in such projects; and (iii) the failure of these projects to provide meaningful incentives to encourage youth involvement (Campbell et al., 2009).

These institutional factors exacerbate other social factors. The members of rural organizations lack a homogeneous set of organizational skills, and this results in the formation of pronounced social hierarchies inside these groups, as recognized in the first *World Youth Report* published by the United Nations Department of Economic and Social Affairs (UNDESA, 2004). The report states that youth movements are often dominated by the most articulate and socially engaged members, while young people from more marginalized groups remain excluded (UNDESA, 2004). In other words, there is a danger that "participation advances the interests of the vociferous, articulate and confident at the expense of others" (Matthews, 2001). In fact, Head (2011) found that, in the case of youth platforms for political participation in Australia, "only the more confident young people are likely to become involved, and the vulnerable or hard-to-reach groups are overlooked. Thus, a focus on formal political or organizational forms of youth leadership could be seen as a rather traditional 'adult-engendered' political goal" (Head, 2011). In the case of New Zealand, one study found that participatory mechanisms for youth in local councils in rural and urban areas reached only those young people who exhibited polarized behaviours (i.e. "achievers", or those with the potential to become leaders, and "troublemakers", or those with perceived socialization problems). The selection was made entirely by adults and left "ordinary youth" (the "excluded middle" as described by the authors) outside of the councils' scope of action. In fact, most of the youth population was not even aware of the opportunities for participation provided by local councils (Nairn, Judith and Freeman, 2006). These examples point to the fact that participatory mechanisms can have unintended effects, including the creation of a division between elite and non-elite youth.

All in all, it is clear that participatory mechanisms can be used in pernicious ways. Leaving aside lip service on the issue by governments, there is a risk that patronage mechanisms, tokenism (Hart, 1992)[25] and "instrumentalization for development"[26] may be employed by governments when they are supposedly promoting the inclusion of young people in decision-making processes.[27] Rural residents, including youth, are more likely to be involved in relationships marked by communal solidarity, and this is

25 Hart (1992) defined tokenism as "those instances in which children are apparently given a voice, but in fact have little or no choice about the subject or the style of communicating it, and little or no opportunity to formulate their own opinions".

26 As defined in White (2018, p. 64): "There has indeed been a tendency for policy work, in the 'human capital' and 'youth bulge/ youth dividend' frame, to treat young people as objects of policy and instruments of development, rather than as active subjects and as citizens with rights. 'Instrumentalising' young people in this way parallels the much-criticised tendency to instrumentalise women in 'economic efficiency' (rather than social justice) arguments for gender equality.".

27 For instance, in the case of Afghanistan, youth political organizations – while indeed challenging traditional, adult-driven politics – are still very dependent on patronage mechanisms provided by "old guard political networks" in order to gain access to the political system, particularly outside of the capital (Hewad and Johnson, 2014).

often used by politicians who find "country folk" easier to mobilize as a voting bloc than diverse groupings of self-focused, independent-minded urbanites are (Bratton, Chu and Lagos, 2010).

Despite these challenges and the fact that there are no comprehensive descriptions of what a successful participatory programme for rural youth would look like (partially owing to the limited number of such initiatives to be found in rural settings), the opportunities for rural youth to gain agency and empowerment by becoming active participants are greater than in the past. Rural youth today are more educated than earlier cohorts of young men and women. They have access to information, communication and technology in a way no previous generation has ever had and, among other factors, they are increasingly more connected to urban areas (both physically and figuratively through ICTs). Last but not least, rural youth today live in a world where public participation and transparency are considered key tools for enhancing decision-making in the public arena – tools which need to be employed in order to promote a youth-centred rural transformation process.

Levels and mechanisms of youth participation

The various types of public participation mechanisms can be classified based on their purpose and on the level of influence that they enable citizens to have on decisions at any given stage in the policymaking process. A number of international organizations and experts rely on the IAP2 Public Participation Spectrum to gauge the extent of public participation (Head, 2011; OECD, 2017c).[28] This incremental spectrum describes levels of public participation ranging from mechanisms for informing people about policies to mechanisms of empowerment that place final decision-making in the hands of the public.[29] In the case of rural youth, participation mechanisms can be divided into the following levels:

i. **Information**: Young people are informed about policies, projects or other initiatives that have been conceived of and designed by adults. Thanks to this information, rural youth can understand the rationale, objectives and decisions behind those policies or initiatives. By definition, information mechanisms establish a one-way flow of information.

ii. **Consultation**: Young people's views are listened to and governments provide feedback on how consultations with them have shaped their decisions. Here, there is a two-way interaction, and the consultation can be active (initiated by youth) or passive (proposed by decision makers).

iii. **Collaboration**: Young people are seen as active partners who share the responsibility for decision-making with adults. While collaborative mechanisms may still primarily be initiated by adults, young people can take self-directed action and can influence and challenge processes and outcomes. These mechanisms allow for iterative dialogues.

28 IAP2 stands for International Association for Public Participation. Other classifications for youth participation include Hart's classic eight-level "ladder of participation" for children: manipulation; decoration; tokenism; assigned but informed; consulted and informed; adult-initiated shared decisions with children; child-initiated and directed; and child-initiated shared decisions with adults (Hart, 1992, p. 8). Karsten (2012) has managed to categorize as many as 36 models developed between 1969 and 2012 for classifying youth participation, including Hart´s and IAP2´s. See also Lansdown and O'Kane's (2014) series for Save the Children on the issue.

29 The first level would be a form of involvement in which citizens work with officials, usually in a top-down model, to ensure the inclusion of the former's opinions and governments provide justification for their decisions and actions to the public.

iv. **Empowerment**: Young people take the initiative and conduct projects on issues that they themselves have identified. Spaces within existing structures, systems and processes are open to youth-led decision-making. Final decisions are enforced by governments as public policy.

This spectrum provides both goals for each level of participation and clear messages for the public about what each level means for them (see **TABLE 4.1**). Elaborations on this spectrum place youth participation at each level in the framework of different platforms and techniques for participation, as outlined by Head (2011). These levels reflect the idea that there are significant gradations of rural youth participation, something that Arnstein (1969) has referred to as rungs of a "ladder of public participation" whereby the power of citizens to influence decision-making increases as they move up that ladder (Arnstein, 1969).

TABLE 4.1 Levels of participation for rural youth

	Levels of public participation			
	Information	**Consultation**	**Collaboration**	**Empowerment**
Public participation goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	To place final decision-making power in the hands of the public.
Promise to the public	*We will keep you informed.*	*We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.*	*We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.*	*We will implement what you decide.*
Example techniques to consider	• Open house • Youth caucuses and observers in parliament • Transparent communication with policymakers: • Websites • Fact sheets	• Public comment mechanisms • Focus groups • Surveys • Public meetings • Workshops • Public hearings • Youth councils	• Citizen advisory committees • Consensus-building • Participatory decision-making • Youth advisory boards • Internship/fellowship programmes	• Youth-initiated and -led (peer) consultations or information campaigns • Youth parliaments • Small-scale youth-organized and youth-managed programmes
Promising practices in participation	• Sri Lanka's National Youth Services Council • Philippines National Youth Commission	• Regional organizations' meetings • Specialized Meeting on Family Farming (REAF) of MERCOSUR and MERCOSUR workshops. • IFAD's grant to Slow Food for Empowering Indigenous Youth and their Communities to Defend and Promote their Food Heritage	• UNFPA's Youth Advisory Panels • IFAD's Rural Youth Vocational Training, Employment and Entrepreneurship Support Project in Mali	• Global Youth Innovation Network • Restless Development initiative (Sierra Leone) • Sri Lanka Youth Parliament • IFAD's Community-Based Natural Resource Management Programme (CBNRMP)

Source: Adapted from IAP2 (2014); Head (2011).

When designing participatory mechanisms for policies or programmes related to rural youth, it is of key importance to consider which level will be the best fit for the objectives of the policy or project in question, the particular circumstances involved and the people whose participation is to be channelled through those mechanisms. A critical view of the examples of the different participation techniques presented in **TABLE 4.1** raises a question as to the extent to which these mechanisms are (or could be) effectively made available to rural youth. In some cases, it is difficult to imagine that citizen advisory committees or citizens' juries could serve as tools of participation for rural youth, particularly in developing countries where social norms are such that male adults are in charge of rural institutions. Moreover, depending on the availability of Internet access and digital capabilities, even simple informative mechanisms could be difficult to implement. This relates to Kelleher, Seymour and Halpenny's (2014) reference to the definition of seldom-heard young people as people "who do not have a collective voice and are often underrepresented in consultation or participation activities" (Community Network for Manchester, 2011).

Advantages and disadvantages of participation mechanisms

Assessing the advantages and disadvantages of participation mechanisms requires a careful review of the existing participatory programmes and initiatives that involve rural youth. Although there are many initiatives (such as workshops, councils, parliaments, etc.) that promote youth participation, none are primarily focused on rural youth. This is particularly striking given the broad consensus in the literature about the need to include "hard-to-reach young people". Therefore, the assessment presented here is based on a review of specific institutional arrangements for promoting participation and holistic interventions in other fields as a basis for determining what elements may facilitate youth inclusion.

Trivelli and Morel (2018) reviewed 54 mechanisms specifically related to youth participation in southern Asia, sub-Saharan Africa and Latin America (see annex 4.1 for a list of the initiatives that they reviewed). They found that, while there are many mechanisms available for youth participation in the developing world (many of which have been promoted by regional or international bodies or development agencies), the vast majority do not have a specific approach tailored to rural youth. However, some of the most rural countries in the world – according to the most recent update of the World Bank (2018) – have national and regional institutions that are working with young people in participatory ways, including Papua New Guinea, Afghanistan and Sri Lanka (youth parliaments), Nepal (the United States Embassy Youth Council), Cambodia and Kenya (youth councils), to name a few. Countries that have recently undergone political transitions or in which armed conflicts have recently come to an end have been targeted by international organizations to promote youth involvement in decision-making processes. Initiatives of this sort include the work being done by of the United States Agency for International Development (USAID) in Nepal, by United Nations agencies in Sri Lanka and by the International Republican Institute in the Gambia.[30] Sub-Saharan Africa, southern Asia, the Pacific Islands and the Caribbean have the most experience in this regard.

30 "National Youth Parliament Holds First National Sitting" *Daily Observer*, Monrovia, 13 July 2017.

There is no blueprint for participatory mechanisms for rural youth, as the type of mechanism that will be the best fit will depend on the desired level of participation, and all of them have both advantages and disadvantages. The strengths and weaknesses for each level of participation are discussed below.[31]

i. **Information mechanisms.** As the focus of these mechanisms is information-sharing, the spread of information and communications technologies represents a major opportunity for supporting the engagement of rural youth in public life, even in the least connected areas and for the most excluded groups (see chapter 8). A study on rural women in Latin America found that, while there is a general gender bias in the use of the Internet, young rural women are not subject to any psychological barrier that would hinder their adoption of new technologies. This suggests that being young is a stronger "brand identity" than being rural or being a woman (Asensio, 2012). Some governments have undertaken efforts in this direction. In Sri Lanka, for example, the United Nations Development Programme (UNDP) has partnered with the National Youth Services Council (NYSC), Cisco and Citi to conduct e-learning programmes in 20 locations to strengthen young people's ICT skills.[32]

   Although face-to-face methods of sharing information (e.g. open houses, participation in youth caucuses) may be preferred by some groups, they pose challenges for young people in rural areas because of their high costs in terms of transportation, accommodations and time. Oral, written or digital means of communication may also have limitations when the objective is to reach isolated rural youth populations, particularly if the methods involved rely on Internet access and require that the target group has a given level of literacy. In addition, language barriers may be a problem when seeking to promote the participation of youth from indigenous communities and minority groups.

ii. **Consultation mechanisms.** Face-to-face communication is frequently the form of interaction of choice when regional organizations seek to consult young people. National and international meetings among national youth representatives are common within the framework of international organizations or groups such as the Commonwealth, the African Union, the Association of Southeast Asian Nations (ASEAN), the South Asian Association for Regional Cooperation (SAARC) and the Pacific Island countries. Still, as in the case of information-sharing mechanisms, forms of participation that require rural youth to be physically present in a given place at a specific time pose challenges for those living in more distant and poorly connected locations.

   Youth councils offer another way of consulting young people. These councils provide an institutionalized forum where young people can make their voices heard to governments. The Organisation for Economic Co-operation and Development (OECD) describes them as "umbrella organizations that represent and co-ordinate youth organisations" across a given country (OECD, 2017c). Youth councils are present at the national level in countries such as Fiji, Rwanda and the Gambia and work at the subnational level in countries such as Pakistan, the Philippines and Peru, and many of them seem to have functions resembling

31 See Trivelli and Morel (2018) for a more detailed discussion.

32 See United Nations Development Programme (UNDP) office in Sri Lanka. *Youth Technopreneurship for Social Change*. At: http://www.lk.undp.org/content/srilanka/en/home/presscenter/pressreleases/2018/04/25/youth-technopreneurship-for-social-change.html (last updated 4 July 2018).

those of ministries or youth institutes. However, these consultative mechanisms are highly vulnerable to the effects of fluctuating political support, a lack of autonomy on the part of the agencies to which they are attached and budget constraints. In addition, they can easily be captured by urban youth, who do not always represent the voices of their rural peers, or by the most empowered rural young men or women. Representative branches of youth councils for hard-to-reach rural youth might be an option to overcome this constraint.

In addition, and particularly in traditional and less connected rural settings, opening up the arena of public participation to young people – even when that participation is limited to consultation – may meet with resistance from sectors of the society that have traditionally been the ones holding those conversations (i.e. adults, males, majority groups). More connected and integrated rural settings tend to facilitate such participation platforms more successfully.

It should also be noted that, while workshops and meetings are a common tool for youth consultation, they are sometimes conceived of as one-off interactions and, as such, have no substantive impact on young people's lives unless they are attached to long-term programmes designed to promote leadership. One example of a long-term consultative mechanism is the one being used by the Specialized Meeting on Family Farming (REAF) (*Reunión Especializada en Agricultura Familiar* in Spanish). REAF, with support from several institutions, including IFAD and FAO, set up its own working group of young leaders to discuss issues related to family agriculture. REAF has provided courses via international meetings to train these youth leaders and to identify the main challenges to the continuity of this cohort in rural areas and the formation of an agenda to guide public action (REAF, 2016). According to REAF, young people who went through this programme are now assuming leadership positions and bringing up their own ideas about rural development and intergenerational approaches to the policy cycle in their countries.

BOX 4.1 Youth network mobilizes young people in El Salvador

Given the importance of actively engaging rural young people in decision-making processes, IFAD supported the development of the first National Assembly of Rural Youth in El Salvador. For 3,000 young people, this national youth network is paving the way to political and economic empowerment. By providing opportunities for partnerships, training and entrepreneurship, the National Assembly of Rural Youth of El Salvador, now known as AREJURES, is promoting a national agenda of democratic participation and economic opportunity for young women and men. With 13 departmental networks across the country, AREJURES is the leading youth network in this densely populated nation and has been recognized as part of the National Youth Institute (INJUVE) network. Sixty per cent of its members are women, and it includes the Committee of the National Council of Indigenous Youth of El Salvador (CONAJIS). IFAD funded the network's establishment and now supports its operations. In a country with marked inequality, AREJURES focuses on empowering its members through improved communications skills at the community, national and international levels. It advocates for young people to be included in community associations and municipal departments and has achieved rural youth representation on several national committees (*IFAD Annual Report 2017*).

iii. **Collaboration mechanisms.** These mechanisms involve a joint working relationship between government and members of the young population involving ongoing interactions in which young people are co-implementers of a given policy. One of the main challenges for these types of participatory mechanisms in rural areas or for efforts to ensure the participation of rural youth is the fact that, because of their limited stock of human capital, young rural participants may be eclipsed by adult co-implementers and other better-prepared youth. Therefore, elite capture by people who are more empowered and more confident becomes a distinct possibility, and a focused effort must therefore be made to ensure the inclusion of all groups who are supposed to be represented.

Adult bias towards high-performing young men and women represents another common challenge, as adults tend to seek the involvement of "high-achievers" on panels, committees, events, etc., rather than young people who are more representative of their excluded communities. Thus, it is crucial for the adult co-participants in such mechanisms to be familiar with the challenges of participation, to be sensitive to those challenges and to genuinely see their role as one based on collaboration with excluded rural youth. As is true of the other types of participatory mechanisms discussed above, the cost implications of this type of initiative may prevent rural youth from engaging and therefore need to be addressed.

These challenges aside, collaborative mechanisms for participation can support rural youth inclusion by setting up long-term platforms for young people's voices and the expression of their preferences. International organizations have been establishing these types of participatory mechanisms and, in some cases, have introduced specific provisions to ensure the participation of vulnerable groups. For example, the United Nations Population Fund (UNFPA) has its own Global Youth Advisory Panel (GYAP) as a means of engaging in a constructive dialogue with youth organizations and networks in order to better address young people's needs. GYAP has made specific arrangements to ensure that it includes vulnerable youth populations,[33] and, in 2007, the UNFPA-Pakistan Youth Advisory Panel elected 10 young people from rural areas (out of a total of 17 members) to serve for a two-year period.[34]

iv. **Empowerment mechanisms.** While empowering mechanisms are the most comprehensive modes for youth engagement and foster a strong sense of ownership among participants, the levels of social, human and financial capital required by such complex programmes may not be available in all cases. The implementation of this type of participatory mechanism requires previous and/or parallel interventions to improve the human capital of rural youth so that they will be in a position to deal with the complexities of effective and active participation within this kind of framework, and this is particularly true in the case of young people who live in more remote communities. On the other hand, in more integrated and connected rural areas, the consequences of marginalization that are often associated with urban contexts (such as illicit economies or gang membership) may stop youth from participating.

While youth parliaments seem to be one of the most common features of policies for promoting youth participation in developing countries, most of them do not tackle the issue of rurality explicitly. Some of them appear to focus on informing youth populations rather than empowering them; in other words, they educate young people about how the "real" parliament works, rather than trying to involve them in creating a new structure that can inform policymaking.[35]At the project

33 https://www.unfpa.org/sites/default/files/jahia-events/webdav/site/global/shared/documents/events/2009/gyap_09.pdf (accessed on 16 May 2018).

34 UNFPA's Youth Participation Guide is available at: http://nmd.bg/wp-content/uploads/2013/02/UNFPA-YOUTH-PARTICIPATION-GUIDE-11-Nov-08-_email_.pdf

35 As put by Crowley when talking about children's influence on decision-making mechanisms in the United Kingdom and India: "A critical review of the processes involved in turning children's 'voice' into 'influence' in these case studies shows how traditional constructions of childhood work to ensure that formal participation structures and mechanisms (particularly those in the UK) have been much more about providing opportunities for children to practice 'good' citizenship, develop a responsible attitude, and to learn about public decision-making, than about their involvement in shaping public services or holding service providers or policy makers to account" (Crowley, 2013).

level, international organizations such as IFAD have also set up mechanisms for empowering rural youth (see **BOX 4.2**).

The above-mentioned mechanisms are effective ways to channel youth participation at different stages of the policymaking process. However, they cannot guarantee the active and effective participation of rural youth, particularly of those living in the least connected areas and those from minority or indigenous groups. There are other factors that should be taken into consideration when thinking about investments, strategies or programmes aimed at enhancing the participation of rural youth in the public affairs of their communities, countries and regions.

In addition to setting up specific participatory mechanisms, there are cross-sectoral types of interventions that do not focus specifically on participation but that do promote the engagement of young people in decision-making processes as part of their holistic strategies. These interventions are directed towards skills formation and asset provision, both of which can be expected to boost the agency as well as the productivity and connectivity of rural youth. Two areas in which interventions could complement – and leverage – efforts to promote the public participation of rural youth are non-cognitive skill development and intergenerational partnerships.

The term **"non-cognitive-skills"** refers to "a broad set of skills, behaviours … and personal qualities that enable people to effectively navigate their environment, work well with others, perform well, and achieve their goals" (Lippman et al., 2015). These skills are applicable across sectors, complement the acquisition of other skills (Bentaouet Kattan, 2017), and contribute to the achievement of results in education and the labour market (Gates et al., 2016).

Educational systems in rural areas are a critical element in the achievement of higher levels of participation through the promotion of non-cognitive skills. Ideally, schools should help young people make the transition to early adulthood – that very special stage that people pass through when they are between 15 and 20 years of age where they begin to participate in society and in the market. However, the role of formal education, especially in rural areas, in building these kinds of skills needs to be buttressed by additional efforts from other quarters in order to offset

BOX 4.2 Empowering rural youth in IFAD projects

IFAD has recognized that investing in rural youth is crucial for dynamic rural economic growth, and its portfolio of investments increasingly focuses on them as a priority. Thus, it has committed to increasing youth representation in local and national policy processes and to recognizing the importance of giving youth a decision-making role in its operations.

The Global Youth Innovation Network (GYIN), for example, is a youth-led participatory platform in West and Central Africa for young entrepreneurs and rural microenterprises. Its mission is to "establish a global network of young rural and urban entrepreneurs, with the ultimate aim of contributing to poverty reduction by providing opportunities for young entrepreneurs to serve as agents of change through innovation, entrepreneurship, leadership and self-employment" (Vargas-Lundius and Suttie, 2014).

On the other hand, IFAD's Community-Based Natural Resource Management Programme (CBNRMP) in Nigeria is also pointing the way to the constitution of a widely representative youth-led forum. It has "promoted the creation or the strengthening of youth-only groups. The project facilitated the creation of a youth forum called Youth Agriculture Foundation (YIAF). The YIAF was the first network of agro-enterprising youths in the region, with a nine-member Board of Trustees, one representing each state of the region. It became a platform for promoting and supporting sustainable youth agribusiness, a peer review forum among youth agroentrepreneurs, and a platform for youth engagement in policy dialogue with government and other institutions. At the programme completion date, the YIAF had 880 members" (IFAD, 2018).

In Sierra Leone, the Restless Development initiative describes itself as the "leading youth-led development agency placing young people at the forefront of change and development in Sierra Leone". One of its specific goals is to focus on civic participation as "young people are included in the development process, resulting in government policies that are both beneficial and accountable to young people and all of its citizens".[35] The initiative has worked on the issue of rural youth and participation and has found that the main problem in Sierra Leone is the early departure of the most articulate and innovative young people from rural areas as they move to the capital; this void is filled by adults over 35 years of age who feel less compelled to challenge the traditional gerontocracy of the countryside.[36]

36 https://www.oecd.org/derec/unitedkingdom/17_RestelessDevelopmentSierra%20Leone%20sYouthReproductiveHealthProgramme%2020072012.pdf

37 See http://restlessdevelopment.org/file/youth-participation-in-council-decision-making-narrative-pdf

BOX 4.3 Participatory youth budgeting in Argentina – Skills development through empowerment

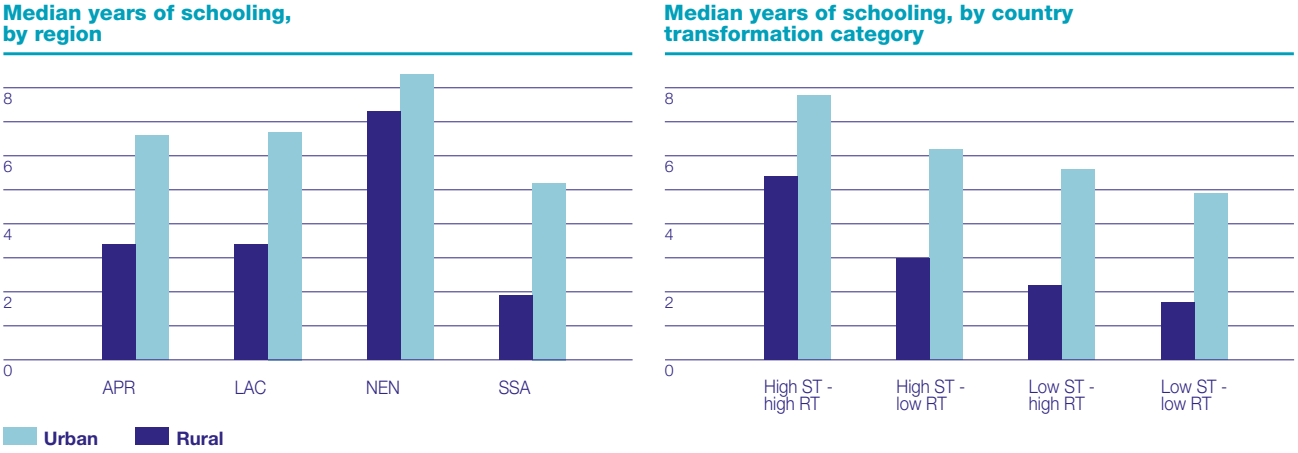
As youth lifestyles become more diverse and the pace of change increases, a promising approach for addressing youth concerns and well-being is offered by participatory youth budgeting mechanisms.

To engage youth as leading players in the design and implementation of local youth services, the Argentine municipality of Rosario undertakes an annual participatory youth budgeting exercise – Joven de Rosario (PPJoven) – that engages youth from across its six districts in democratic processes for selecting representatives and deciding upon budget allocations for youth services. In neighbourhood assemblies, people between the ages of 13 and 18 identify investment priorities and elect delegates to develop project proposals and present the projects and priorities in a round of district assemblies. Local youth then vote on which proposals to implement. During the entire project development process, there is a regular feedback loop with the technical units of the government that are equipped to evaluate the feasibility and costs of the projects proposed by the neighbourhood assemblies.[37]

One broad objective of PPJoven is to enlarge the capabilities of the youth population as a means of facilitating their social and political inclusion. Delegates who will participate in the budgeting rounds receive a full day of training that will allow them to familiarize themselves with the process involved in regular interactions with policymakers and peers aimed at supporting the development of new democratic skills, knowledge and attitudes.

The advantages of participatory budgeting are manifold, and other countries, such as Uruguay,[38] have adopted similar approaches involving collaborative relationships between youth and government officials that have strengthened their mutual understanding and enabled more equitable and effective forms of public spending. Nevertheless, engaging the least transformed and poorly connected communities, as well as socially excluded groups, such as rural and indigenous youth, is challenging and potentially requires further investments in these rural settings. Participatory budgeting requires not only a certain set of human capital and skills on the part of youth delegates, but also the infrastructure needed for regular assemblies and meetings. Problems such as elite capture need to be addressed and to be taken into consideration (SPW and DFID-CSO, 2010).

FIGURE 4.2 Rural-urban gaps in educational attainment are the widest in SSA and in the countries with the lowest transformation levels



Notes: ST: structural transformation; RT: rural transformation; APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa.
Source: DHS Statcompiler, most recent year available. The dataset covers 65 low- and middle-income countries (based on World Bank definitions and data for 2018).

the effects of the lower rates of school attendance seen in rural areas and the rural/urban gap in actual learning outcomes (see **FIGURE 4.1**).

The difficulties facing rural education systems compound the challenges involved in effectively developing non-cognitive skills. It is not clear "…how to gauge the interest within governments to integrate soft skills into basic education; and to what degree other sectors – such as education and health – should be engaged" (Microlinks,

38 https://participedia.net/en/cases/youth-participatory-budgeting-rosario-argentina

39 https://www.municipios.gub.uy/sites/default/files/buenaspracticas/publicaciones/SAN%20CARLOS_Presupuesto%20participativo%20joven.pdf

2017). Higher levels of participation – in such forums as assemblies and consultative bodies – require soft skills that a rural education may not provide (YouthPower, 2017b). Consequently, efforts need to be devoted to building and strengthening the development of rural young people's cognitive skills, whether as stand-alone initiatives or as part of broader development interventions, as this area of learning cannot be left entirely in the hands of rural education systems. These efforts will not only help to enhance rural youth participation in public life, but will also contribute to broader development outcomes.

Effective intergenerational partnerships bring down the barriers that limit active, effective collaboration between youth and adults by addressing the biased institutional environments that tend to place decision-making in the hands of (mainly male) adults. In Checkoway's words (2011), the key components of youth participation are "efforts by young people to organize around issues of their choice, by adults to involve young people in community agencies, and by youth and adults to join together in intergenerational partnerships".

Some organizations have developed frameworks to facilitate such partnerships. For instance, in its checklist for positive youth development practices in programme implementation, YouthPower includes healthy relationships and bonding both with adult role models and peers (YouthPower, 2017a). Another approach is used by the Mastercard Foundation in projects that form part of its Youth Forward Initiative. While this initiative's core issues are youth unemployment in Ghana and Uganda in the agriculture and construction sectors, it also uses a holistic approach that includes mentorships and coaching and close collaboration with youth organizations. In the same vein, the Creating Opportunities for Rural Youth (CORY) Consortium has developed a mentorship structure to develop entrepreneurial capacities and support peer-to-peer learning and access to complementary business development services.

Beyond mechanisms: further considerations for fostering effective rural youth participation

Political receptiveness to the implementation of participation mechanisms could be considered a first step towards success. While technical approaches to participation may achieve some degree of inclusion for rural youth, it is clear that the creation of an enabling environment for meaningful participation by rural youth requires political support – something that tends to be limited and to lack continuity in most rural contexts. This kind of conducive environment is needed not only in order to address youth-related issues, but also – and, in one sense, maybe even more importantly – to advance the broader development agenda.

The second condition for a successful participatory initiative is a clear definition of the purpose for which rural youth are being invited to participate in the policy cycle and, then, after that has been done, the determination of the mechanism to be used (i.e. informative, consultative, collaborative or empowering mechanisms) at a particular stage or stages of the policy cycle. Although the public participation spectrum discussed earlier in this chapter is incremental in terms of how influential of a role is played by the public, this does not necessarily mean that every instance of public participation should empower rural youth. Governments need to decide which level is a better fit for the objectives of the public decision in question in each case.

Careful consideration should also be given to the economy's level of transformation, the connectivity of the rural space and the sense of agency that rural youth have in each

particular context. Just as these three variables affect young people's economic participation, they also affect their participation in various types of mechanisms. In fact, in the least connected spaces in countries with low transformation levels, participation mechanisms are more complex and costly to implement owing to the absence of the assets and skills needed to support such interventions. Informative and consultative mechanisms face the challenges posed by difficulties in disseminating information and rigid social norms. In peri-urban areas, these constraints are likely to matter less, although other types of marginalization often associated with urban settings may create other challenges. Thus, the connectivity of rural, semi-rural and peri-urban areas needs to be enhanced by investing in both hard and soft infrastructure in order to facilitate information exchange and open up new opportunities for rural youth to participate and engage in economic, social and political spheres of life.

In addition, governments and organizations should recognize that young people do not belong to a unified, monolithic group. Thus, special measures should be taken to facilitate the inclusion of youth from rural areas, especially those who belong to the more disadvantaged groups, such as young women and members of indigenous communities. Measures to ease the inclusion of young rural women could include reducing their workloads, strengthening their soft skills, supporting women's organizations, setting quotas for young women's membership and inclusion in leadership positions in certain types of organizations, and sensitizing local leaders to the importance of young women's participation. Considerations relating to local languages, cultural identities and traditions are also of great importance in effectively promoting the inclusion of indigenous youth (Dockery, 2013).

In recent years, a significant opportunity for fostering rural youth participation has emerged with the increasing accessibility and use of information and communications technologies (ICTs). While participation has traditionally been associated with face-to-face interaction, the use of ICTs has ushered in new ways in which rural youth can obtain information and provide input and can make their voices heard in decision-making processes. ICTs are thus a powerful tool for overcoming some of the constraints that impede rural youth participation, especially those related to high transaction costs.

In sum, participatory mechanisms are tools that young people can use to realize rural transformation potentials and, in the process, build and strengthen their sense of agency. But in order for participation to be meaningful, it has to be built on a sustainable foundation. Some participatory mechanisms rely on young people already having sufficient assets to serve as that foundation. However, this is not the case for the majority of rural youth. For them, participation could come to be seen as nothing more than an illusion if it does not help to increase their economic, social and/or human capital in any meaningful way. Linking participatory mechanisms to broader development approaches is therefore critical in order to ensure their sustainability.[40]

40 YouthPower's Positive Youth Development Approach is one example.

SPOTLIGHT Indigenous youth

Indigenous youth are confronted with additional challenges on top of the manifold constraints that all rural youth face on their path to becoming productive and connected citizens in charge of their own future. Indigenous youth are oftentimes living in the least connected areas with poor access to productive resources and public services. As noted by ECLAC (2008), poverty levels among indigenous youth are higher than they are among the overall youth population in Latin America.

Indigenous youth in rural areas generally have lower levels of educational attainment than their non-indigenous counterparts in terms of both access to education and average years of schooling (World Bank, 2015). Most educational systems are not sufficiently inclusive of indigenous peoples' culture and histories. In particular, school curricula are often lacking in linguistic appropriateness, and indigenous youth rarely receive instruction in their own language (Trucco and Ullmann, 2015). These shortcomings result in low attendance rates and higher dropout rates for indigenous youth, which are then borne out in higher illiteracy levels, fewer employment opportunities and high poverty levels (ECLAC, 2014). Disproportionately high indigenous youth unemployment levels then put added pressure on them to leave their communities in search of employment and educational opportunities elsewhere (ECLAC, 2018).

The dispossession of indigenous lands brought about by resource-extracting industries and limited access to productive resources further pressure indigenous young people to migrate to urban areas in search of employment (ECLAC, 2014). The detachment from their communities occasioned by rural-urban migration, combined with accelerated cultural changes, may explain the high incidence of mental illness and high suicide rates among indigenous youth (ECLAC, 2014). Their difficulties in the area of social integration are then exacerbated by structural discrimination in urban settings against indigenous persons (ECLAC, 2014; World Bank, 2015).

In addition, the incidence of child and maternal mortality, unwanted pregnancy and chronic diseases are disproportionately high among indigenous youth, while economic, geographic, linguistic and cultural factors interfere with their access to sexual and reproductive health services (ECLAC and PAHO, 2011). Evidence from 15 Latin American countries suggests that the adolescent pregnancy rate is consistently higher among indigenous youth than non-indigenous youth (with the differential ranging from nearly 12 per cent to 31 per cent in Latin America), even when controlling for educational levels. Since early childbearing increases the risks of maternal mortality and other health problems (Conde-Agudelo et al., 2004; Patton et al., 2009) and undermines long-term educational and economic prospects, it is also a cause of concern (see chapter 3). Furthermore, because early union and motherhood are deeply rooted cultural practices among some indigenous peoples, adolescent motherhood may not be regarded as an issue (Trucco and Ullmann, 2015).

Indigenous youth often have little voice on the national or international level or even within their own communities. As observed by ECLAC (2014), tensions between traditional institutions and the aspirations of young people are very common and create barriers for both groups. Many roles within indigenous communities are traditionally reserved for older men, with the result that young people are underrepresented in leadership positions and in decision-making processes within their communities (ECLAC, 2014). This type of situation impedes their empowerment, the development of their capacities and their participation in social, economic and political decision-making (UNDESA, 2013).

It needs to be recognized that indigenous youth are of central importance for the conservation and management of natural resources as well as inclusive and sustainable rural development. There are approximately 67 million indigenous young people globally (UN, 2015), and their territories are home to 80 per cent of the world's biodiversity (IFAD, 2016). With their deep and varied knowledge of the natural world and traditional land-use practices, they have made invaluable contributions to the conservation and management of ecosystems (IFAD, 2016). Their economies maintain a sustained interaction with and adaptation to particular locations and ecosystems, and their ability to use biological resources sustainably has historically protected them against crop failure, biodiversity loss, soil infertility and other threats (Kelles-Viitanen, 2008). To promote the biological, cultural and social continuity of indigenous peoples and ensure that the needs and rights of indigenous youth are recognized, investments which address their specific constraints are indispensable. In particular, policymakers need to:

+ *Empower indigenous youth.* A sustainable path towards ending poverty and promoting shared prosperity involves

creating an inclusive society with institutions, structures and processes in place that empower *all* groups in society, including traditionally marginalized groups such as indigenous youth (World Bank, 2013). Recognition of indigenous youth institutions, adequate funding and engaging indigenous youth in all levels of public decision-making are thus important steps towards ensuring their right to participation and to pursue a course of inclusive development. Fortunately, international awareness of the important role of indigenous young people is on the rise, and they are increasingly engaging in the activities of indigenous youth organizations (ECLAC, 2014).

+ *Increase access to culturally inclusive education.* A number of studies have shown that children who participate in intercultural and bilingual education classes perform better, both in their first and second languages (IASG, 2014). The use of indigenous languages and the inclusion of indigenous knowledge in the school curricula increase the interest of students and their families in their history and in their present and future learning and development opportunities (IFAD, 2016). Instruction at the basic education level of this type should be provided in indigenous communities in order to endow indigenous students with the cognitive and non-cognitive skills that will facilitate their inclusion in the rural development process and enable them to meet labour market demands.
+ *Increase access to (reproductive) health services for youth.* Comprehensive intercultural health policies that accord value to indigenous knowledge and practices, including indigenous medicine, need to be developed. Access to health, nutrition, and sexual and reproductive rights education is of critical importance for indigenous youth and needs to be promoted in accordance with their respective cultures and in appropriate languages (ECLAC, 2014).
+ *Invest in rural infrastructure.* Many indigenous young people migrate to urban areas in search of employment and livelihood opportunities, as well as education (ECLAC, 2014). Broad-ranging investments in rural connectivity aimed at improving access to information, markets and financial services need to involve indigenous youth in order to pave the way for an inclusive and sustainable rural transformation process that will increase their income-generating opportunities and ease the pressure on them to migrate.
+ *Engage with the private sector.* Highly transformed countries with indigenous populations have implemented successful policies to improve indigenous youth education, employment, entrepreneurship and civic participation. The fact that these interventions typically combine public and private investments underlines the importance of public-private partnerships (PPP) for the sustainable inclusion of indigenous youth (UBC, 2018; Westpac Group, 2014; Prosper Canada, 2015).

BOX 4.4 IFAD's engagement with indigenous youth

In India, IFAD's Orissa Tribal Empowerment and Livelihoods Programme is strengthening young indigenous people's capacities through placement-linked training and pre-recruitment training. In all, training has been provided to 3,044 young people, of whom 1,100 have been placed in business enterprises. Special emphasis was placed on the requirement that at least one fifth of the participants had to be young women. In Argentina, Brazil, Colombia, Mexico and Kenya, IFAD has partnered with Slow Food International to promote the social and economic empowerment of young indigenous people. The project targets indigenous rural youth between the ages of 15 and 34 living in communities where IFAD-funded projects are using a value chain approach to increase the economic value of food heritage products. The project is also designed to foster the social empowerment of indigenous young people by building on their leadership skills and capacity to strengthen indigenous youth participation through platforms that offer policy dialogue and knowledge exchanges.

Annex 4.1 Participation experiences reviewed

Global and regional initiatives

1. African Union Youth Division (https://www.africa-youth.org/)
2. ASEAN Youth Organization (https://aseanyouth.net/)
3. Asia South Pacific Association for Basic and Adult Education (ASPBAE) (http://www.aspbae.org/)
4. Caribbean Regional Youth Council (https://caricom.org/about-caricom/who-we-are/institutions1/caribbean-regional-youth-council)
5. CARICOM Youth Ambassadors (https://caricom.org/caricom-youth-ambassadors)
6. Commonwealth Youth Council (http://commonwealthyouthcouncil.com/)
7. Creating Opportunities for Rural Youth (CORY) Consortium
8. Global Youth Innovation Network (http://www.gyin.org/)
9. Melanesian Youth Parliament
10. Nuevas Trenzas project (Colombia, Ecuador, El Salvador, Guatemala, Nicaragua and Peru) (https://iep.org.pe/estudios-y-proyectos/nuevas-trenzas-mujeres-rurales-jovenes-del-siglo-xxi/)
11. Pacific Youth Council (http://www.pacificyouthcouncil.org/)
12. Pacific Youth Development Framework Partnership (PYDF Partnership) (https://sustainabledevelopment.un.org/partnership/?p=7597)
13. REAF Mercosur (http://fidamercosur.org/claeh/)
14. Restless Development initiative (http://restlessdevelopment.org/)
15. RIMISP Rural Dialogue Groups (https://rimisp.org/proyecto/jovenes_rurales/)
16. South Asian Youth Summit (http://www.saarcyouth.org/)
17. UNFPA Youth's Advisory Panels (country websites available)
18. Young Professionals for Rural Development (YPARD) (https://ypard.net/)
19. Youth Forward Initiative of the Mastercard Foundation

IFAD projects

1. Agricultural Value Chains Support Project
2. Promoting Young People's Entrepreneurship
3. Rural Youth Vocational Training, Employment and Entrepreneurship Support Project
4. Community-Based Natural Resource Management Programme (CBNRMP)
5. Empowering Indigenous Youth and their Communities to Defend and Promote their Food Heritage

Latin America and the Caribbean

1. Brazil – National Youth Council (http://juventude.gov.br/conjuve)
2. Peru – Rikolto's coffee chain project in Peru (https://sudamerica.rikolto.org/id/node/1571)
3. Peru – Youth Regional Councils (COREJU) (regional websites available)

Asia and the Pacific Islands

1. Afghanistan Youth Parliament
2. Azerbaijan Youth Parliament

3. Union of Youth Federations of Cambodia (http://www.uyfc.org/home/) (civil society organization)
4. Cambodia Asian Youth Council (civil society organization)
5. Cambodia – Commune Youth Group Project (https://www.unicef.org/evaldatabase/index_66659.html)
6. Fiji – National Youth Council (https://www.facebook.com/NYCFiji/)
7. India – Rural Empowerment Project of the Swades Foundation (https://www.swadesfoundation.org)
8. Jordan – Higher Youth Council (http://www.youth.gov.jo)
9. Jordan – Youth Participation in Local Governance (YPLG) project
10. Nepal – National Youth Council (https://www.nationalyouthcouncil.org/)
11. Nepal – United States Embassy Youth Council
12. South Asian Youth Summit (http://www.saarcyouth.org)
13. Pakistan Youth Parliament (http://www.youthparliament.org.pk/)
14. Pakistan – Punjab Parliamentary Youth Caucus
15. Philippines – National Youth Commission (http://nyc.gov.ph/)
16. Sri Lanka – Youth Parliament (http://www.nysc.lk/aboutParliament_e.php)
17. Sri Lanka – National Youth Services Council (http://www.nysc.lk/index_e.php)
18. Timor Leste – Youth Engagement to Promote Stability (YEPS) project

Africa

1. Botswana National Youth Council (https://bnyco.weebly.com)
2. The Gambia – National Youth Council (http://www.nyc.gm)
3. The Gambia – National Youth Parliament
4. Kenya – National Youth Council
5. Rwanda – Youth Council (http://www.nyc.gov.rw/)
6. Sierra Leone – GoBifo project (http://siteresources.worldbank.org/EXTJSDF/Resources/EB-FINAL_Sierra_Leone_Jan5.pdf)
7. Somalia – Somali Youth Leaders Initiative
8. South Africa – National Youth Development Agency (http://www.nyda.gov.za/Pages/default.aspx)
9. Zimbabwe – Trusting in Youth in Zimbabwe Project

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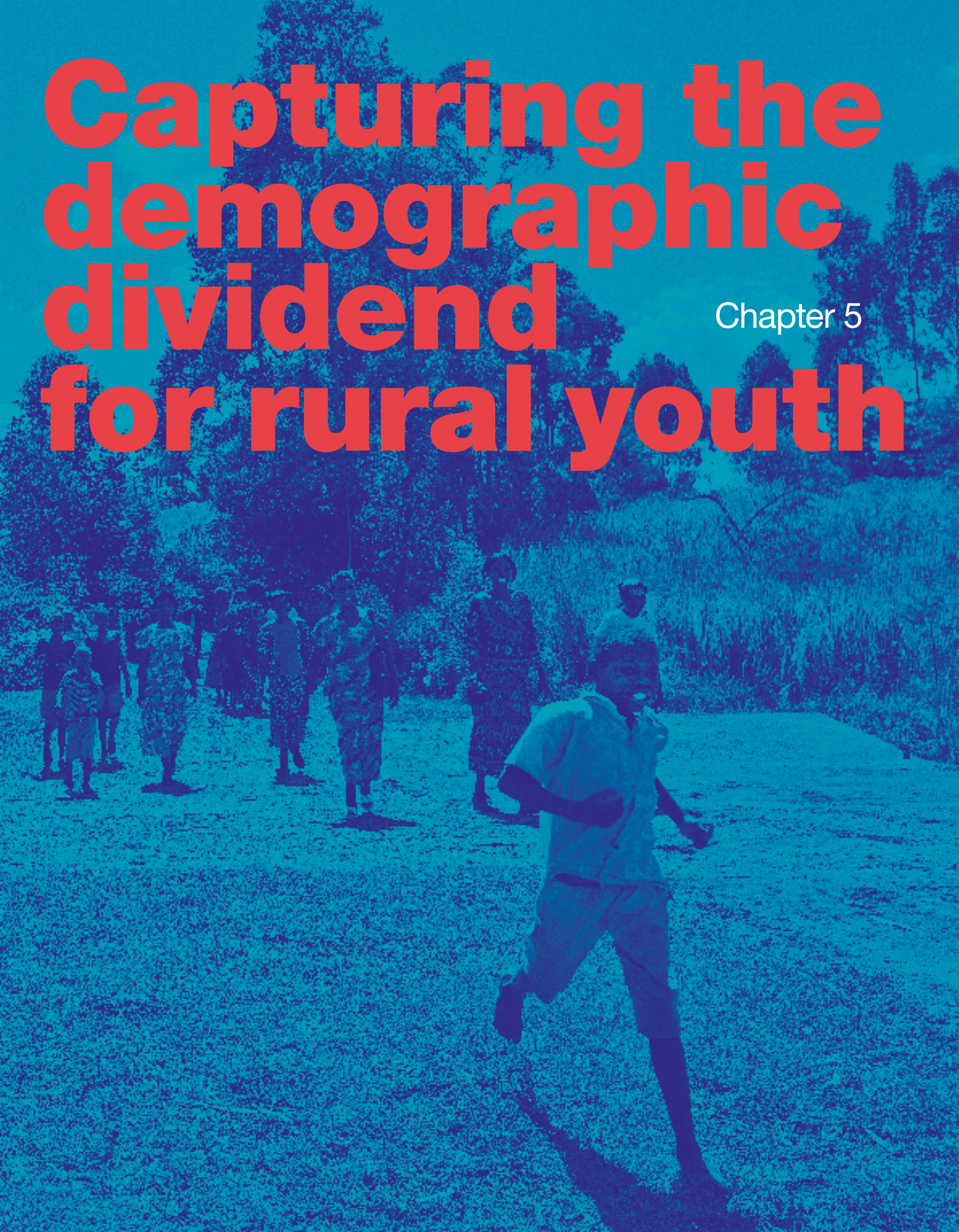
Capturing the demographic dividend for rural youth

Chapter 5



Three interlinked demographic processes have major effects on rural livelihoods: urbanization, rural densification and the demographic transition. More than 50 per cent of the population in lower- and middle-income countries now live in "urban" areas, yet the rural population has increased around fourfold since the 1950s (UNDESA, 2017b). Urbanization (including the expansion of secondary cities), rural densification and the growth of rural towns are reducing the literal and figurative distance between urban and rural areas and increasing opportunities in rural areas as they become more connected to markets thanks to increased mobility and migration, among other factors.

The demographic transition is closely linked to the processes that lie at the heart of structural transformation and may deeply affect rural young people's lives and opportunities (Stecklov and Menashe-Oren, 2018). The demographic transition is the process whereby initial declines in mortality (primarily infant and child mortality) generate rapid population growth and younger population age structures. After some time – in some cases quite rapidly and in others following substantial delays – fertility begins to decline and, eventually, populations begin to age.

The term "demographic dividend" refers to the potential for increased economic growth that arises during the phase of the demographic transition – at some point after the onset of the decline in fertility – when the proportion of the total population represented by the working-age population is large; with more people working per each non-working person (i.e. with a low dependency ratio), average output should rise (Bloom et al. 2003; Lee and Mason, 2010). If the right investments are made at this juncture, then this period can also be a time of higher educational attainment, better health outcomes and improved employment opportunities for women. All of this will increase the size of the *(first) demographic dividend*.

The dividend thus arises during what is a unique and temporary window of opportunity for economic growth. It can make a large, sustained contribution to growth if the transition is fast and if governments make the needed investments to increase the productivity of the workforce during the period when the dependency ratio is low. If the transition is slow, or if needed investments are not made, long-term growth can be undermined.

Rural areas generally lag behind in the demographic transition, which is why it is so important for investments to be made in improving the health, education and productive employment of rural youth in those areas. Such investments will speed up the transition and increase the size and durability of the dividend.

The pace of the demographic transition needs to accelerate in sub-Saharan Africa (SSA) because this region is at risk of missing out on the dividend. The average fertility rate in SSA remains stubbornly high at 5.1 live births per woman, while in Asia it has declined from almost 6 to around 2 births per woman in the past 40 years (UNDESA, 2017a). SSA currently hosts 20 per cent of the youth population of the world's low- and middle-income countries, and its share is projected to rise to between 30 and 50 per cent by 2100. If

fertility does not decline faster in SSA and young people do not participate productively in the economy, more people are likely to remain poor, especially in rural areas. This is already reflected in slowing rates of poverty reduction and increasing numbers of poor people in the continent in recent years (World Bank, 2018a).

Investments aimed at incorporating young rural women into the workforce, while taking the reproductive sphere of life into account, are of key importance in capturing the demographic dividend. The contributions of female labour force participation to the demographic dividend are twofold. First, participation in the workforce encourages young women to delay childbearing and can contribute to fertility reduction. Second, it increases the productivity of the rural sector and thus speeds up the structural transformation process. Bringing young rural women into school and work will improve their livelihoods and (rural) economies as a whole.

Investments that will encourage savings by upgrading the performance of financial institutions can drive a *second demographic dividend*. This happens when the working population makes up a large share of the total population, has low fertility rates and then increases its retirement savings. The resulting upswing in aggregate savings raises investment levels and contributes to long-term economic growth. Achieving this second dividend requires stable institutions that incentivise private savings. Even countries that (almost) missed the first demographic dividend can grasp the second one if they manage to bring their youth into employment and create a functioning financial system. With the right institutions put in place now, today's young generations can become the drivers and beneficiaries of the second demographic dividend.

The demographic transition is closely tied, as both a cause and a consequence, to the rural transformation process. It thus plays a central role in determining the prospects for sustained and inclusive rural transformation and in our understanding of these dynamics. This chapter lays out what the demographic transition is, explains the closely related concepts of the first and second demographic dividends, and highlights their relationship to the rural transformation process. It also offers a review of the status of the transition in the various regions of the developing world and looks at some of the reasons for the uneven pace of progress; in that connection, it also focuses on the very slow transition occurring in Africa and the concerns which that raises. It then goes on to discuss how investments in rural youth can help to accelerate the transition in the countries that stand in greatest need of the demographic dividend.

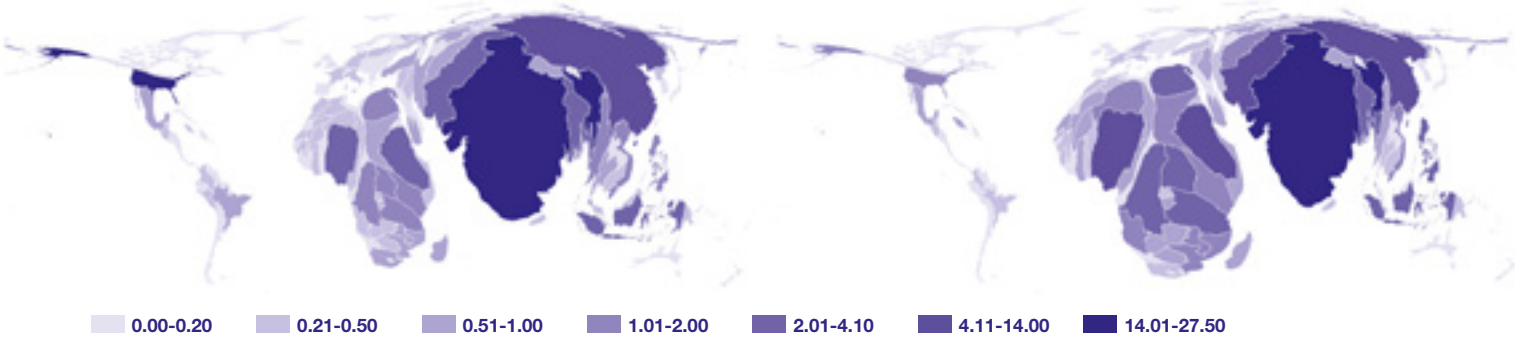
A majority of the rural youth population lives in Asia, but it is growing much faster in Africa

Africa's and Asia's contrasting rural youth population trends attest to the strong impact that the structural and rural transformation processes have in that respect (see **FIGURE 5.1(A)**). In 2015, Asia was home to over 60 per cent of developing-country rural youth, which was over 3 times as many as in SSA and roughly 10 times as many as in the Near East and North Africa (NEN) and Latin America and the Caribbean (LAC). India and China alone accounted for over 20 per cent of these young people. However, rapid growth, structural transformation and urbanization in most of Asia have rapidly been reducing the proportion of the total population that is made up of rural youth (see chapter 2). The number of rural youth in Asia in absolute terms has also been falling since the mid-1980s. Africa, on the other hand, has seen far less of a transformation, fertility rates remain high and the number of young people in rural areas is rising very rapidly. By 2050, the

FIGURE 5.1.a A disproportionate share of rural youth today are in Asia, but Africa's share is projected to rise rapidly

Percentage share of global rural youth, 2015

Percentage share of global rural youth, 2050

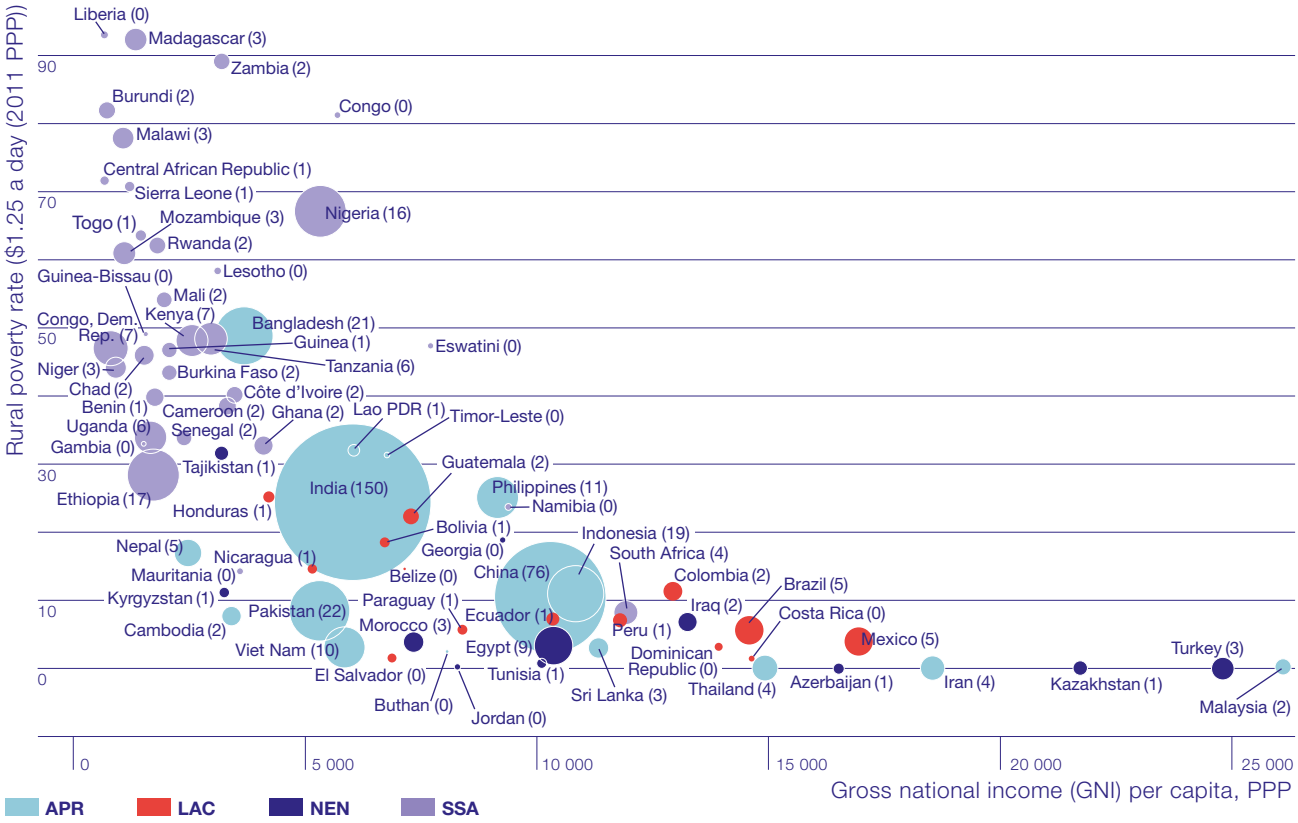


0.00-0.20 **0.21-0.50** **0.51-1.00** **1.01-2.00** **2.01-4.10** **4.11-14.00** **14.01-27.50**

Note: This map is an equal-area cartogram (also known as a density-equalizing map) of the share of global rural youth, by country. The cartogram resizes each country according to its share of the global rural youth population. The seven different colours shown on the map differentiate the various categories of countries according to their shares. The projected increase in Africa's share of rural youth by 2050 is represented by the larger size of that continent relative to the others.
Source: Authors' calculations using the Gastner-Newman method (2004) based on spatially disaggregated population data for 2015 and projections for 2050 from the United Nations Department of Economic and Social Affairs. The rural youth projections are created by applying the projected share of the rural population to the total projected youth population. This is based on the assumption that age structures in rural and urban areas will remain the same. Potential deviations from this assumption are not expected to have a noticeable effect on overall trends in rural youth populations across regions.

FIGURE 5.1.b The majority of countries with large youth populations have high rural poverty rates

Number of rural youth (in millions)



Notes: APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa; PPP: purchasing power parity.
Source: Authors' calculations based on United Nations *World Population Prospects: The 2017 Revision*. The dataset covers 75 low- and middle-income countries (based on the World Bank definitions of these categories and data for 2018). The numbers in parentheses represent millions of rural youth in each country. A zero signifies that the rural youth population is less than 1 million.

number of rural youth in Africa is expected to nearly double to about 180 million, while the size of the young rural population in Asia will fall rapidly from 340 million to about 230 million.

Apart from China and India, the vast majority of these rural youth live in low-income countries with high rural poverty rates, mostly in Africa (see **FIGURE 5.1(B)**). Of all the countries in the world with rural poverty rates of 30 per cent or above, all but two – Bangladesh and Tajikistan – are in Africa. These basic numbers lead to a startling observation: if growth and transformation in Asia and Africa continue over the coming decades at the rates seen in recent decades, then by 2050 Africa will account for almost all the world's poor rural youth. A key contribution of the rest of this chapter is to explain why this is the case and how Africa may avoid it.

The first demographic dividend is a one-time opportunity

The demographic transition is both a cause and a consequence of structural and rural transformation processes

The demographic transition starts with declines in mortality (primarily infant and child mortality), which generate rapid population growth and younger population age structures. In modern times, this decline in mortality typically starts in urban areas and later spreads to rural areas.[41] After some time – in some cases quite rapidly and in others following substantial delays – fertility begins to decline, which leads to an ageing population. This decline in fertility also typically starts in urban areas and then spreads to rural areas.

The demographic transition can drive structural and rural transformations in the following way. Falling fertility in urban areas raises labour productivity and incomes in the cities. These rising incomes drive changes in expenditure patterns that shift spending away, in relative terms, from food and towards non-food items, thus starting off the process of structural change in the economy. Rising urban incomes also draw increasing numbers of rural people – many of whom are young – to urban areas in search of better opportunities.[42] When fertility rates start to decline in rural areas while rural-urban migration continues, falling population growth rates in rural areas relative to urban population growth rates boost labour productivity and incomes in rural areas, both in farming and in non-farm activities. Expenditure patterns then begin to change in rural areas, which increases the overall pace of structural change, especially in rural zones. Without a demographic transition, or with a very slow one, this process slows down significantly and economic opportunities stagnate.

The demographic transition is also a consequence of structural and rural transformations because declines in fertility – the engine of the transition – depend

41 In pre-industrial Europe, poor hygiene caused urban areas to become hotbeds of disease, resulting, initially, in higher mortality rates there than in rural areas. This is no longer the case even in the urban areas of the world's poorest countries.

42 While the contribution of migration to total urban growth is smaller in today's developing world than it was in industrializing Europe, this is primarily an effect of the much lower death rates found in urban areas today. This means that the rates of natural population growth in today's urban populations are much higher. Absolute rates of migration throughout the developing world are now equal to or higher than they were in Europe during much of the period when it was industrializing. Also, although rural-urban migration clearly declined throughout the developing world between the 1960s and the 1990s, so did death rates. The result is that, with variations across countries and regions, rural-urban migration continues to contribute almost as much to urban population growth as does the natural increase in urban populations, while the reclassification of rural areas as urban areas contributes the most of all. See Jedwab, Christiaensen and Gindelsky (2017), especially figure 4.

crucially on key elements of the structural transformation process. Rising incomes driven by the structural transformation lead women to change their behaviour in ways that reduce fertility. This is especially the case in urban areas, where the increased opportunity cost of time is more noticeable and there is a much greater degree of exposure to information, ideas and possibilities than in rural areas (although the digital revolution is changing this; see chapter 8). Stagnant income growth in rural areas, or at the lower ends of the income distribution in urban areas, can stymie income growth and slow the decline in fertility. Here, governments' economic policies and investments in fundamental capabilities play a crucial role.

At the same time, income growth and urbanization can contribute to a shift in men's attitudes and to broader changes in social norms that allow women to take more control over their lives in many spheres (Heath and Jayachandran, 2018). Increased agency among young women drives further declines in fertility, leads more women to invest in themselves through education and can lead more of them to reap the returns to education by entering the labour force. All these factors combine to create a virtuous cycle between demographic transition and the structural and rural transformation of the economy.

The demographic transition generates demographic dividends that can drive economic transformation and growth

The demographic transition and the structural and rural transformation processes are also bound up with one another as both cause and effect in what have come to be called the first and second demographic dividends. The first demographic dividend can be reaped during a window of opportunity that is opened up by the demographic transition. Once youth populations begin to decline relative to the rest of the population, countries enter a period during which each dependant (most of them are children at this point) is supported by more and more people who are working and creating wealth. Even if labour productivity were to remain stagnant (which is historically very unusual), this simple fact would drive increases in average incomes which would then fuel changes in the expenditure patterns that drive, to some extent, the structural and rural transformation of the economy. The faster the demographic transition, the higher the potential dividend that can be captured with the right investments.

The second demographic dividend can be far larger and longer lasting. It depends on two factors: the rise in savings levels as the relative size of the working population increases, and the investment of these savings in the fundamental capabilities of the country. If a country succeeds in doing this, then the *temporary* first demographic dividend can become a permanent and potentially self-sustaining increase in the rate of economic growth. Capturing these savings and investing them properly, however, depends on whether there is an enabling environment and a constructive relationship between the public and private sectors. The reader will recall, as discussed in chapter 2, that government effectiveness – a proxy measure of institutional quality – is much higher in more transformed and higher-income countries. So, while the first demographic dividend fuels some growth and some structural and rural transformation, the second is very dependent on those transformations. It can also be far larger and last much longer and can thus have a much more transformative impact on an economy and society.

The logic of a temporary window for capturing the demographic dividend is clear. Imagine a drop in mortality followed by a slow decline in fertility. Populations would expand rapidly. Eventually, fertility decline would catch up, but the age structure of the population would have grown a great deal younger, and the rapid growth of the

total population would have put stress on infrastructure and perhaps on society that would be hard to cope with. The young age structure of the population would ensure many years of rapid population growth, even as fertility continued to decline. Unless the drop in fertility were to speed up dramatically, the demographic transition would unfold slowly: the size of the youth population relative to the total population would fall, but only haltingly, over decades. With an extended period of time during which there are relatively few workers to support each person who is not working, the first demographic dividend would emerge slowly and be quite small. Income growth would also be slow, meaning that people would not be able to ramp up their savings, and governments would have little ability to promote and capture what savings they could generate. The prospects for the potentially much larger, longer lasting and transformational second dividend would not be as bright. Thus, the speed of the demographic transition can have a very strong influence on the size of the demographic dividends and, consequently, on economic growth over the long run.

Sub-Saharan Africa is lagging behind in the demographic transition and risks missing the demographic dividend

The share of rural youth in the overall population is a good indicator of where a country stands in the demographic transition. The most transformed low- and middle-income countries have a smaller share of rural youth in their populations, and this share is expected to continue to shrink (see chapter 2). In contrast, the share of rural youth in the least transformed countries – 80 per cent of which are in Africa – is declining much more slowly owing to their persistently high fertility rates, especially – but not only – in rural areas. Thus, these countries need to act now to speed up their demographic transitions so that they can capture demographic dividends that will fuel their structural transformation.

Asia captured sizeable demographic dividends. Latin America had done so to a lesser extent

The first demographic dividend made a major contribution to growth in many countries of Asia and Latin America. That contribution was driven in part by supportive policies, although the types of policies that were used were very different in the two regions. The East Asian economic growth "miracle" is partially accounted for by trade openness, high savings rates, human capital accumulation in the areas of health and education, and macroeconomic policy, but rapid demographic change has also been a major factor (Bloom and Finlay, 2009). Declines in fertility and the resulting increase in the share of the working-age population triggered behavioural changes: more women entered the labour force, people saved more as life expectancy rose, and investment rose as well (Lee et al., 2000; Bloom et al., 2007; Bloom et al., 2009). This kind of demographic shift has fuelled a similar economic growth spurt in south-central Asian countries in more recent years (Bloom and Finlay, 2009).

Family planning programmes and investments in maternal and child health care have helped to drive the demographic transition in Latin America. Countries in this region appear to have underinvested in education, however, leaving them with a smaller demographic dividend than would have been possible. Furthermore, the economic policies in the region have neglected trade as an important engine of growth (Gribble and Bremner, 2012a; Mason, 2005).

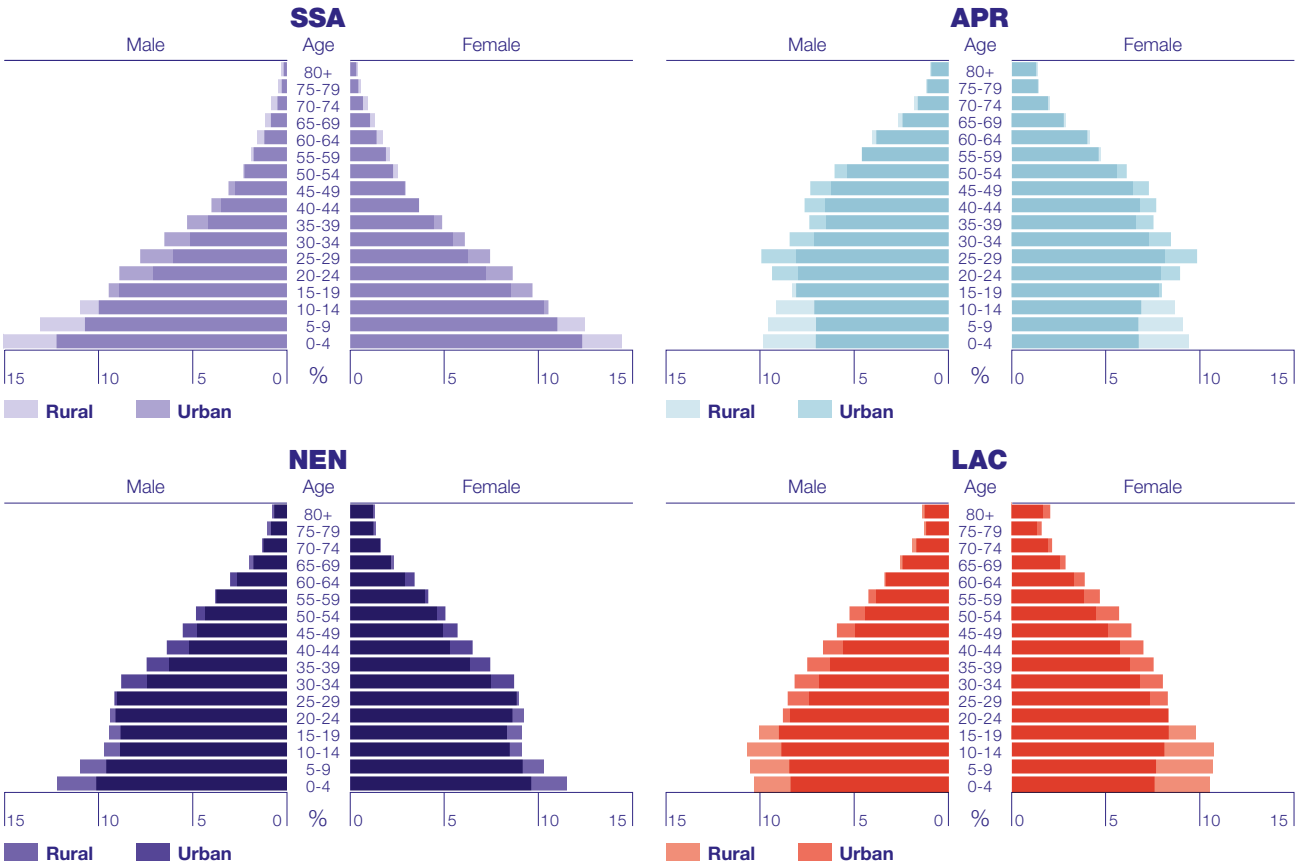
Africa's current population structure differs dramatically from that of the rest of the developing world

The population pyramids for 2015 of low- and middle-income countries illustrate the regional contrasts to be observed in the stages of the fertility transition reached by the various regions (see **FIGURE 5.2**). Despite gender differences in population structures, the pyramids reflect broadly consistent differentials between the rural and urban sectors. In APR and LAC, the population pyramids indicate the existence of low fertility rates, with smaller proportions of the population under age 25, particularly in the urban sector. Young men comprise 18 per cent of the rural population in LAC and 16 per cent in APR. Rural areas in both regions have higher fertility rates than urban areas. However, in APR, a bulge is evident in the urban population between the ages of 20 and 34, possibly as a result of rural-urban migration combined with steep past declines in urban fertility rates.

The population pyramids of APR and LAC contrast dramatically with that of SSA. The population of SSA in both the rural and urban sectors is young: 65 per cent of the rural male population is under the age of 25 and 19 per cent is between the ages of 15 and 24. In the Near East, North Africa and Europe (NEN), the rural male population in the 15-24 age group is the same relative size (19 per cent) as in SSA, but the lower average fertility rate in NEN is evident in the narrower base of its population pyramid as compared to that of SSA.

FIGURE 5.2 Africa's current population structure differs dramatically from that of the rest of the developing world

Rural and urban populations, by age group and continent



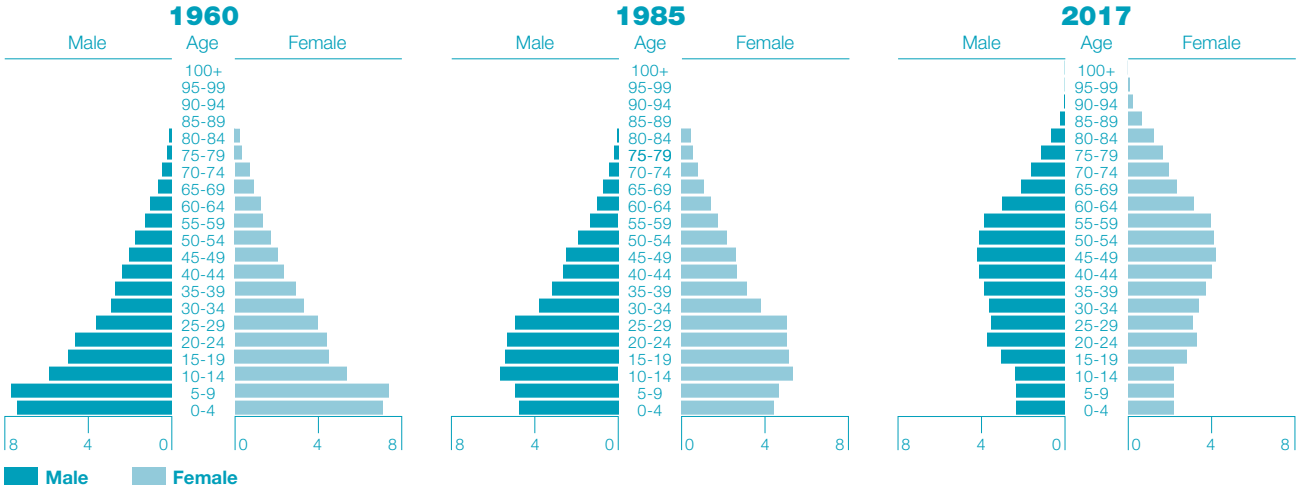
Note: APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa. These figures depict the mean population pyramids for the countries in each region in 2015, by rural and urban sector.
Source: United Nations Department of Economic and Social Affairs (UNDESA), *Urban and rural population by age and sex*; Stecklov and Menashe-Oren (2018).

BOX 5.1 The Republic of Korea's path to a demographic dividend

The countries commonly referred to as the "Asian Tigers" have long been known for the rapid transition that they made from agriculture-based to technology-based economies. The Republic of Korea was particularly successful in capitalizing on its demographic dividend. With an annual growth rate in GDP per capita of 6.7 per cent between 1960 and 1990, it is an exceptional example of an aid recipient that turned into a high-income country. And with gross national income (GNI) per capita soaring from US$67 in the early 1950s to US$22,670 in 2012 (World Bank, 2018b), the country made a rapid transition from high to low fertility rates. The Republic of Korea's success was made possible by the fact that it addressed population issues while also investing in reproductive health programmes and education and while pursuing economic policies designed to create infrastructure, attract foreign investment, promote exports of locally manufactured goods and set a minimum wage to help raise living standards (Gribble and Bremner, 2012b). Together, these orchestrated policies laid a solid foundation for a demographic dividend.

As a result, the country's total fertility rate dropped from 5.4 children per woman in 1950 to 2.9 in 1975 and to 1.2 in 2005 (UNDESA, 2011). Although family planning was already being promoted in the 1960s, the larger reductions in fertility were attributable to home visits conducted by field workers – a more effective strategy for reaching women than clinic-based services. In 1950, 42 per cent of the Republic of Korea's population was under the age of 15 and the working-age population represented 55 per cent of the total population; by 2010, its population structure was radically different, with children under the age of 15 representing only 16 per cent and the working-age population representing 74 per cent of the population (Mason, 1997).

FIGURE 5.3 Demographic pyramid of the Republic of Korea: 1960, 1985 and 2017



Source: United Nations Department of Economic and Social Affairs (UNDESA) population data: https://www.populationpyramid.net/.

Investments in improved health infrastructure and increases in the number of health-care providers and facilities per capita, along with greater access to health care through government-sponsored insurance programmes, further spurred the expansion of economic opportunities. By 2010, the Republic Korea had a life expectancy of 81 years and an infant mortality rate of 4 per 1,000 live births (UNDESA, 2011), with both of those indicators being among the best in the world.

Furthermore, in the 1950s and 1960s, the country's educational strategy changed from an emphasis on compulsory primary education to "production-oriented" education that focused on the knowledge and skills needed for economic development. Thanks to the shift in focus and an increased commitment to education, among other factors, by 1990, 97 per cent of school-age children were attending school (Mason, 1997). The smaller number of children attending school (thanks to a drop in the country's total fertility rate), the rise in disposable income at the household level and sustained investment in education contributed to the emergence of a better-educated population, and that population, in the form of a skilled labour force, contributed to rapid economic development.

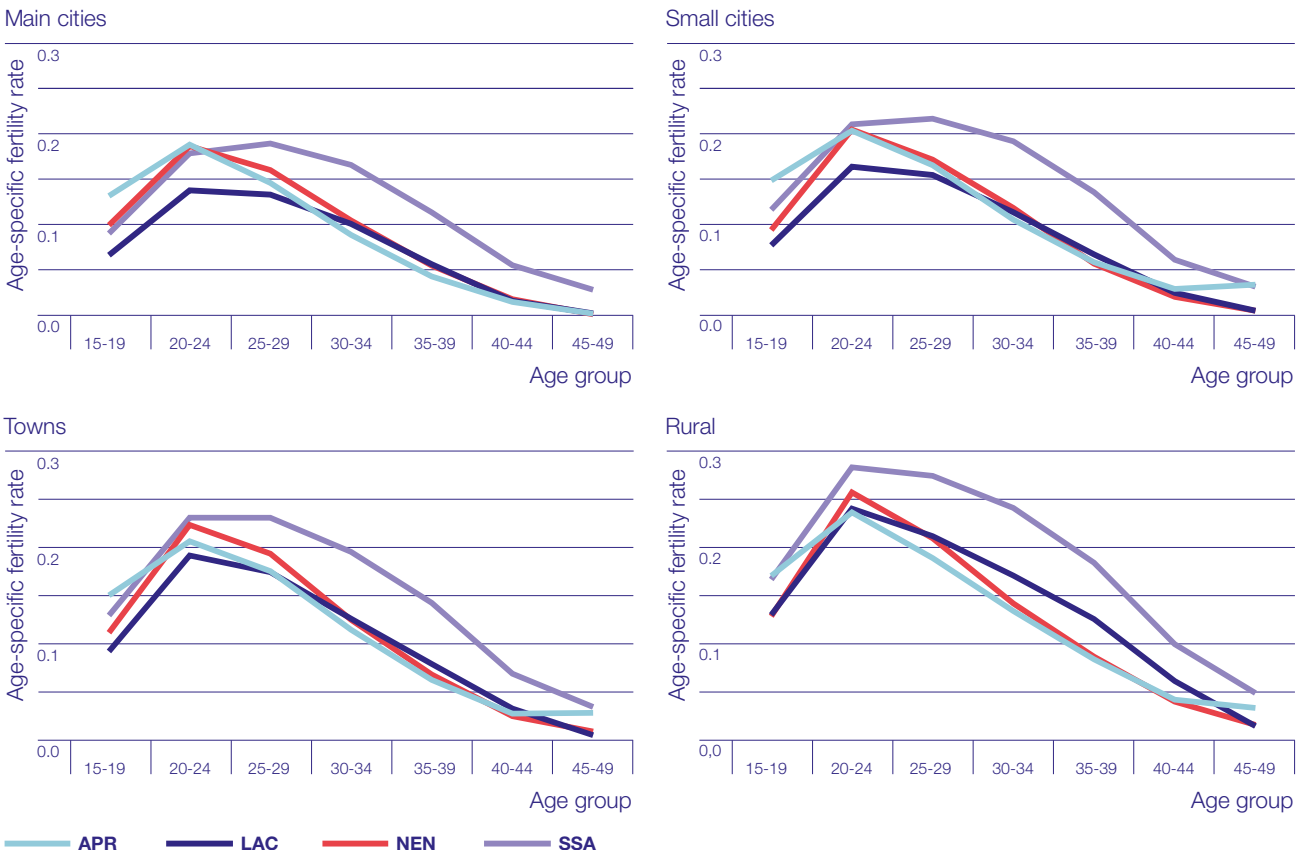
Africa's high fertility rate is not confined to remote rural areas

Africa's mortality rates have come down, but fertility remains higher than in other regions. **FIGURE 5.4** gives the age-specific fertility rates by region and along the rural-urban gradient. Women in SSA have higher fertility rates than in other regions in all age groups (including women over the age of 25) and all sectors aside from young women in big cities. In all regions, fertility is highest in rural areas and declines with population density but, in SSA, fertility also remains relatively high in small towns and cities and does not decline to the same extent in major cities as it does in other regions. As a result, the share of children and adolescents in the population of countries in SSA has remained high and per capita income growth is slow.

One reason for the persistently high fertility rates in SSA is that the region has the highest under-5 and infant mortality rates in the world (see **FIGURE 5.5**). In rural areas, 150 out of every 1,000 children do not survive to their fifth birthday. While the rate in the main cities of SSA is still high in global terms, it is significantly lower than in small towns and the rural hinterland. The under-5 mortality rate is sensitive to particular types of health investments that have an impact on children after the first year of life. Life in urban areas appears to be more beneficial for children in part because they enjoy access to better health care and primary health services. Thus, despite the fact that slums and overcrowding are more common in cities, under-5 and infant mortality rates are lower in cities than in rural areas (Fink, Günther and Hill, 2014). Investments in rural infrastructure

FIGURE 5.4 Africa's high fertility rates are not confined to remote rural areas

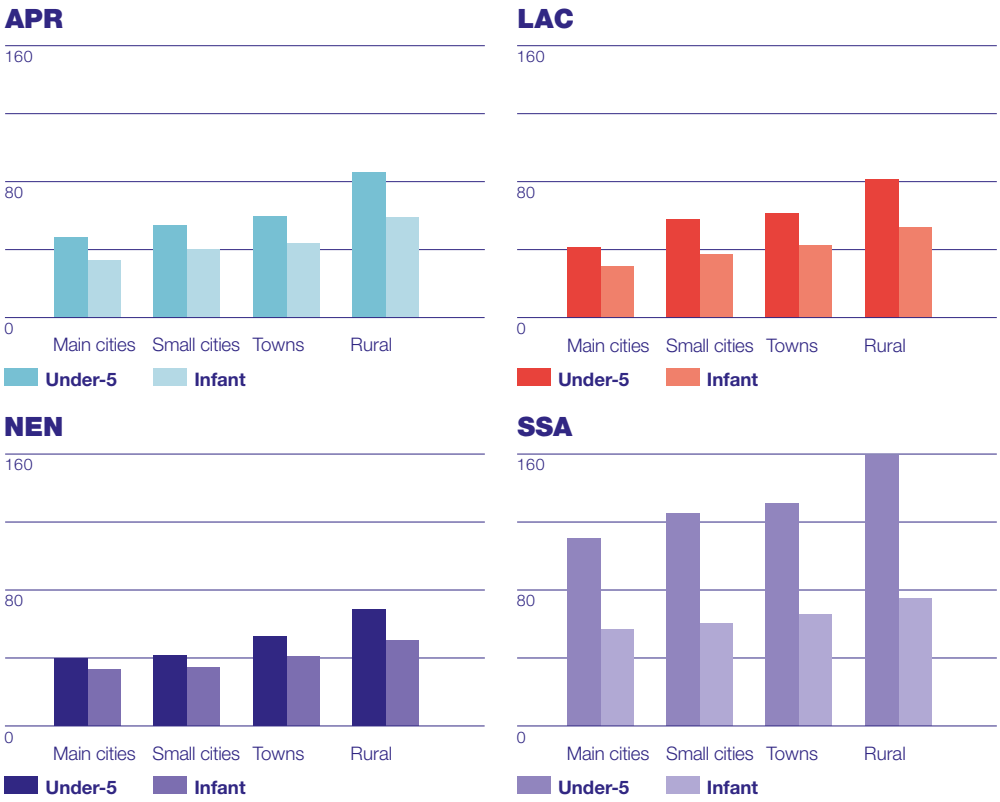
Age-specific fertility rates, by sector and region, 1986-2014



Notes: Each age specific rate presented in the figure represents the number of births expected by a woman in that age group over the course of one year. Women spend 5 years in each age group so that the Total Fertility Rate (TFR) is calculate by the sum of the multiplication of each of the age specific rates by a factor of five. SSA: sub-Saharan Africa; NEN: Near East, North Africa, Europe and Central Asia; APR: Asia and the Pacific; LAC: Latin America and the Caribbean.
Source: Demographic and Health Surveys (DHS); Stecklov and Menashe-Oren (2018).

FIGURE 5.5 Child and infant mortality rates in major African cities are higher than they are in the rural areas of every other region of the world

Under-5 and infant mortality rates, by region and rural-urban gradient



Notes: APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa.
Source: Demographic and Health Surveys (1986-2014); Stecklov and Menashe-Oren (2018).

can help reduce mortality and improve health service provision. Furthermore, child and infant mortality rates are higher for younger mothers (women between the ages of 15 and 24), which is indicative of a lack of experience and resources (Stecklov and Menashe-Oren, 2018). Young mothers in rural areas appear to face significant challenges in building families, and they may be particularly prone to becoming single mothers as the structural transformation process draws partners – most often males – to the cities. Infant and child mortality rates are declining in all regions, however, and the decline is sharpest among young mothers (Stecklov and Menashe-Oren, 2018). In addition to the poor human development prospects associated with such conditions, high infant and child mortality rates are strongly correlated with higher fertility rates (Bhalotra, Venkataramani and Walther, 2018) and therefore figure as a key area for interventions to reduce fertility in SSA.

The level of rural-to-urban migration in SSA has been comparatively low in recent decades (Jedwab, Christiaensen and Gindelsky, 2017). Politically related fears of urban congestion and its negative effects notwithstanding, the migration of workers out of rural areas is an important part of the economic transformation process, since when workers move out of agriculture and into more productive urban sectors, rural productivity can

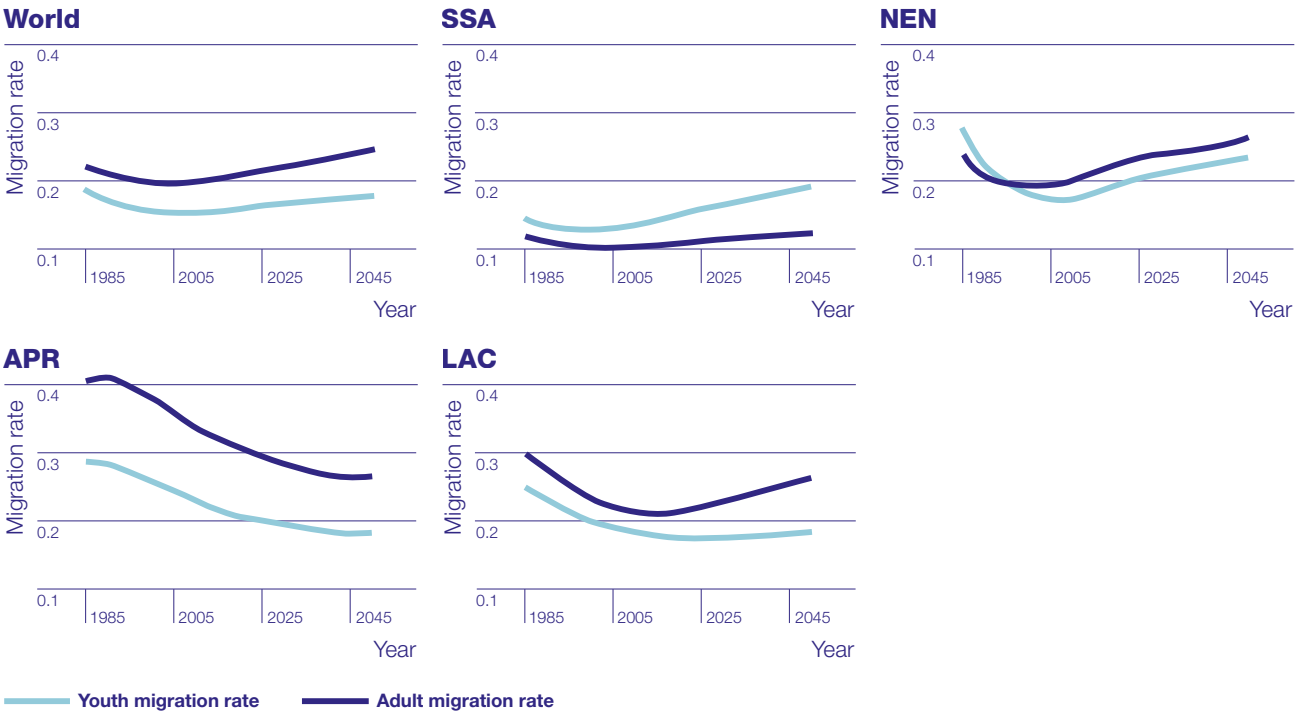
increase (Harris and Todaro, 1970). If the number of people leaving the rural sector is small relative to the rural population, then the growth of per capita income will be slow (de Brauw, Mueller and Lee, 2014). High urban and rural fertility rates combined with low rural-urban migration rates are associated with congested cities and low productivity in both rural and urban sectors, which impedes rural and structural transformations (Fay and Opal, 2000).

The rising rural population in SSA is, however, expected to lead to an increase in the demographically driven rural-urban migration of young people. **FIGURE 5.6** shows the projected rural-urban migration rates for young people and adults, by region, based on population projections. In comparison to other regions, migration rates in SSA have been relatively low. Given its demographic structure, however, SSA is the only region where youth are more likely to move from rural to urban areas than adults are and at an increasing rate. However, the migration rates as such fail to reflect the fact that the number of people in rural areas is still growing, with the result that, in absolute terms, more young people are projected to migrate within SSA than in other regions of the world.

Young men in SSA are more likely to migrate to urban areas than young women, resulting in what is referred to in the literature as "feminized" rural areas (Menashe-Oren and Stecklov, 2017). The difference between urban and rural sex ratios is higher in SSA than in other low- and middle-income countries (see **FIGURE 5.7**), with many more

FIGURE 5.6 Rural-to-urban migration rates of young people and adults, by region, projected to 2050

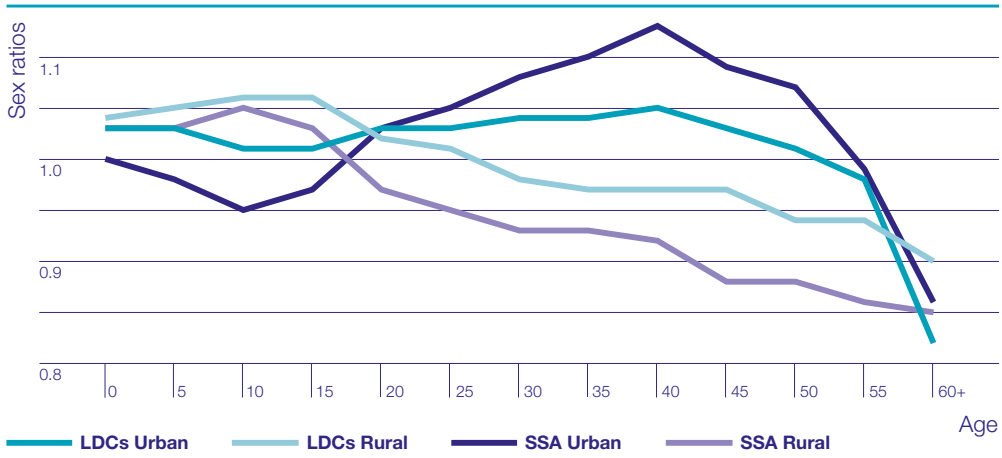
Rural to urban migration rate of youth and adults by region, 1985-2050



Notes: Produced using locally weighted scatterplot smoothing (LOWESS) methods.
Source: Arslan, Egger and Winters (2018), based on United Nations Department of Economic and Social Affairs (UNDESA), *Urban and rural population by age and sex.*

FIGURE 5.7 Young men in SSA are more likely to migrate to urban areas than young women, resulting in "feminized" rural areas

Rural and urban sex ratios, by age group



Note: The figure depicts rural and urban sex ratios (male over female), by age group, in SSA compared to those for all least developed countries (LDCs), based on population data for 2015.
Source: United Nations Department of Economic and Social Affairs (UNDESA), *Urban and rural population by age and sex*; Stecklov and Menashe-Oren (2018).

men beyond the age of 15 living in urban areas.[43] These imbalances in rural and urban sex ratios have implications for job creation policies and investments. The demographic dividend cannot be fully captured if women are not incorporated into the labour force or are relegated to low-productivity activities. Another implication of rural poverty is that people in those areas will not be saving and contributing to a second demographic dividend unless conditions are altered. If sex ratios remain unbalanced, the demographic shift may entail increasingly gendered poverty in the rural sector.

Missing the dividend could have enormous negative long-term consequences for rural development in Africa – and for the economic future of (rural) youth

Low levels of rural and structural transformation, combined with stubbornly high fertility rates, limit Africa's ability to invest in the dividend. For rural youth, this translates into limited prospects for employment and income growth. Ethnically fractionalized rural areas with limited resources may face social unrest as a result of the circumstances associated with rural youth bulges in the population pyramid (Stecklov and Menashe-Oren, 2018). And the stakes for Africa's youth are high. Because the transition is particularly slow in rural areas, rural youth face the greatest challenges, but the right investments in rural areas could also yield the highest pay-offs.

In urban areas, the youth bulge triggers fears of social unrest, crime and violence if young people cannot find employment (Cincotta, Engelman and Anastasion, 2003; Goldstone, 2002; Mesquida and Wiener, 1999; Urdal, 2004 and 2008). As rural-urban youth migration increases in the context of conflict-affected rural areas, the challenges faced in urban areas could be exacerbated if more rural youth, especially young men, migrate to the cities. So far, however, the anticipated impact in terms of social unrest has not materialized (Menashe-Oren, 2017).

43 The sex ratio is the ratio of males to females in a population; globally, it is estimated at 1.05 males to females at birth.

Countries in other regions have an opportunity to increase the first dividend and prepare for a second one

Some regions and countries have already gone through the demographic transition that yields the first demographic dividend but did not make the investments needed to reap its full benefits. For example, in the Near East and North Africa (NENA), the population structure is such that a large proportion of young people have just reached working age or will reach that age in the next few years, which will lower the dependency ratio (see **FIGURE 5.2**). However, a larger share of these young people are neither working nor in education than in other regions of the world (ILO, 2018). If those young people could be engaged in productive employment, then the NENA region could reap a demographic dividend. Missing this opportunity may slow down its structural and rural transformation processes while at the same time increasing the risk posed by a large proportion of the population being made up of frustrated young people in a highly fragile region where conflict is already present (Kabbani, 2018).

Within countries, the demographic transition proceeds at different paces. For example, in a large country such as India, some states have already attained low fertility rates and are enjoying the fruits of the first demographic dividend. Their socio-economic outcomes are thus demonstrably better than in those states that have persistently high fertility rates (Haub, 2009). Within most developing countries, rural areas lag behind in the demographic transition. In order for a youth-inclusive rural transformation process to become a reality, the demographic transition in rural areas has to be stepped up.

Countries have to prepare for the second dividend

While the first demographic dividend is transitory due to a discrete period of low dependency ratios, the second demographic dividend, which stems from low fertility rates and longer life expectancies that induce asset accumulation, may take the form of permanently higher levels of income (Stecklov and Menashe-Oren, 2018; Mason and Lee, 2006). The realization of this second dividend is enabled by policies that encourage the emergence of stable, efficient financial markets and by regulatory and legislative structures that encourage higher rates of savings among working-age populations (Mason, 2005; Mason et al., 2017). Because of its potential long-term impact, the second demographic dividend may be leveraged even more effectively by investments in the rural areas that are lagging behind the most.

Investments are needed in two areas in order to capture the second dividend. One is the expansion and improvement of the human capital of young populations. A larger working-age population with more and better skills increases productivity and drives up per capita incomes, eventually leading to higher saving rates for a larger share of the population (Loayza, Schimdt-Hebbel and Servén, 2000; Ahmed et al., 2016). Human capital investments include investments in education and health, which together lead to a higher life expectancy and incentivize people to save for their old age. Such investments can also increase the first demographic dividend. The other area is investment in stable and well-functioning institutions to incentivise savings. Because saving assumes trust in long-run economic stability, both financial markets and government economic policies have to be stable and trustworthy (Dupas et al., 2012). Rent-seeking and corruption can drain away the savings generated in rural economies (Bloom, Kuhn and Prettner, 2017). Changing institutions takes time and thus requires far-sighted investments.

Effective investments for reaping the demographic dividend(s) prioritize rural youth – especially young rural women

Rural youth play a crucial role in a region's ability to reap the demographic dividend(s) for two reasons. First, rural areas in all regions – even in more transformed economies – lag behind in the demographic transition. Speeding up their transition will significantly increase the first dividend and improve prospects for a second one. Second, as young people join the working-age population, they automatically increase the first dividend – if they work. If they do not work or do so in low-productivity activities, then the dividend may remain small. Countries whose populations contain a very large share of young people – most of which are in SSA – will see that even a small increase in youth productivity translates into large productivity gains (Stecklov and Menashe-Oren, 2018).

Because rural areas lag behind in the demographic transition, investments in these areas will have the largest impact

The first step in speeding up the demographic transition in rural areas is to reduce fertility. This can be achieved by reducing child and infant mortality, especially in SSA, through the provision of better and more widely available health-care facilities. The introduction of antibiotics in the United States in 1937 led to a dramatic decline in child mortality and a significant reduction in fertility (Bhalotra, Venkataramani and Walther, 2018). Evidence from South Africa shows that the removal of user fees for maternal and child health care reduced fertility and improved children's educational outcomes (Ito and Tanaka 2018). Contraception is a necessary component of successful family planning, yet contraceptives are not widely (or easily) available in many countries (Bradley et al. 2012). While family planning tools and reproductive health education should be made more accessible in rural areas, their accessibility alone will not change social norms about family size (Miller, 2010; Casterline and Agyei-Mensah, 2017). Enrolling rural girls in school, facilitating their continued attendance and bringing young rural women into the workforce can substantially reduce fertility (Martin, 1995; Bongaarts, 2010; Keats, 2014; Cannonier and Mocan, 2014; Lavy and Zablotsky, 2011).

Investments aimed at increasing rural productivity cannot ignore differences in age and sex structures along the rural-urban gradient. If, as in SSA, for example, relatively more women remain in rural areas due to male out-migration, their productive engagement in the rural economy may require different types of interventions than would be effective in a male-dominated labour force. Agricultural extension or training programmes have to be adjusted in line with the specific constraints and needs of female farmers, which may vary by age group as well (Quisumbing et al., 2014). Unbalanced sex ratios across rural and urban areas may also increase the time burden for women who work and continue to shoulder most domestic duties. Therefore, improving the supply of basic time-saving services in rural areas or extending care services or other types of family support to less connected areas can help reduce this burden (Stecklov and Menashe-Oren, 2018; see also chapter 3).

Fundamental capabilities must be strengthened

The fundamental capabilities of a country are its human capital, strong and competitive markets, high-quality physical infrastructure such as roads, electricity and water distribution systems, and the policies and regulatory structures that make these possible. Physical infrastructure improvements enhance market connectivity and thus

the productivity of rural economies and their ability to drive the structural and rural transformation processes and create more opportunities for rural youth. Simulations indicate that, unless large sectors of the youth population are able to find jobs, the demographic transition may not yield a dividend, especially in SSA (Drummond, Thakoor and Yu, 2014).

To avoid missing out on the dividend, investment in the human capital of rural youth must dramatically increase and be made more effective. Learning outcomes must improve, especially in less transformed countries and in less densely populated areas. Making education more accessible will be of critical importance in boosting young workers' productivity and facilitating their transition into higher-value-added sectors. Especially in SSA, simulations show that higher educational levels would have a significant positive effect on the size of the demographic dividend (Drummond, Thakoor and Yu, 2014). In order for it to have such marked productivity-enhancing effects, however, education has to go beyond basic technical skills and encompass the non-cognitive skills needed for successful youth employment as well (Fox, 2018).

More fully incorporating young women into the workforce will speed up the demographic transition and substantially increase the demographic dividend

Young women's participation in the labour force has a fertility-reducing effect which will help to speed up the demographic transition. Delayed marriage, delayed first childbirth and wider birth spacing all reduce fertility. Evidence shows that the provision of more schooling to young women (Osili and Long, 2008; Lavy and Zablotsky, 2011; Keats, 2018) and their inclusion in the labour force (Jensen, 2012; Sivansankaran, 2014; Heath and Mobarak, 2015) significantly reduce fertility through these channels.

Reducing the constraints on productive participation by young rural women in rural economies will improve their livelihoods and contribute to more productive rural economies (Doss et al., 2018). While more transformed countries have been able to close the gender gap in educational attainment, less transformed countries still leave girls and young women at a disadvantage in terms of human capital accumulation (see chapter 3). These types of exclusion will hinder their efforts to reap the full potential of the demographic dividend. The dividend may be further reduced if demand-side discrimination as well as societal norms restrict young rural women's participation in the labour force (Desai, 2010; Stecklov and Menashe-Oren, 2018). This is the case even in more transformed countries, where the educational attainment of young women does not lag behind that of young men (Doss et al., 2018) but participation in the workforce does. Investments should connect young rural women to markets and social networks in order to increase their participation and productivity and empower them to gain agency and control over their life choices, especially regarding the ages at which they marry and have their first child.

Governments should improve and expand institutions and financial markets in anticipation of the second demographic dividend

Countries whose populations have already transitioned need to give priority to putting the kinds of financial institutions in place that will help them to achieve and prolong the second demographic dividend. Countries at earlier stages in the demographic transition should place priority on investments in human capital that increase the first demographic dividend and also future returns. To realize the second demographic dividend, the

working population has to be encouraged to save. One important incentive for saving for retirement is if people are not relying on their children or the government to support them. Pension systems that rely on the pay-as-you-go approach (paying current retirement benefits by taxing the current generation) may be counterproductive as they do not increase savings rates (Mason and Lee, 2006; Samwick, 2000), whereas mandatory fully funded pension systems can raise private savings rates significantly, depending on how they are introduced. Tax incentives for private savers do not seem to be effective (Loayza, Schimdt-Hebbel and Servén, 2000). Any such policy will be successful only if people are not afraid that their savings could be lost to corrupt or unstable governments, which poses a challenge in fragile situations.

For rural households to raise their savings levels, market connections have to be improved. Without these connections, farmers have little incentive to invest in order to improve their productivity. Rural areas are often subject to market failures and the consequent mistrust in institutions, especially in the least transformed countries. Evidence from rural Kenya shows that, owing to such a lack of trust, neither uptake nor savings levels increased after potential users were provided with access to savings instruments (Dupas et al., 2012). However, a meta-analysis of 27 studies in SSA found that savings promotion programmes had a strong positive effect on total savings rates and fostered pro-savings attitudes, which indicates that supply-enhancing programmes are more effective than demand-driven ones, such as financial education programmes (Steinert et al., 2018). These results suggest that, in order for programmes to be successful, people have to trust the implementing organizations and institutions. Incorporating rural youth into such programmes, especially by harnessing the potential of ICTs in facilitating access to financial and savings instruments (see chapter 8), is therefore of critical importance in ensuring the realization of both the first and the second demographic dividends.

SPOTLIGHT Rural youth mobility

Migration forms part of the livelihood choices that are particular to (rural) youth in their transition into adulthood. People between the ages of 15 and 24 are going through an important phase of life in which they, either on their own or with their families, make critical decisions about their future that will have a strong impact on their life course. These decisions involve such matters as education, employment and family planning. All of these questions entail a choice as to the place where they will put those decisions into effect, which in turn raises the possibility of migrating to another village or city or to a foreign country (de Brauw, Mueller and Lee, 2018; Crivello, 2011). Secondary schooling is in many cases available only in larger towns and cities, so if rural youth want to further their education, they need to move (Litchfield, 2018; Gavonel, 2017). Seeking employment can often be a reason for youth migration, especially if the availability of land is limited and off-farm opportunities in rural areas are lacking (Kosec et al., 2017; Yeboah et al., 2018). Family reunification and marriage also constitute important reasons for migrating, especially for young rural women. In India, two thirds of all women have migrated for the purpose of marriage, which amounts to approximately 20 million women moving each year (Fulford, 2013). In all of these cases, constraints in terms of agency that are specific to youth and to women, in particular, become evident and shape these migration decisions and outcomes.

Rural youth are more likely to migrate to urban areas than adults in sub-Saharan Africa. Rural-urban migration is an important part of a country's structural transformation process (FAO, 2018). Countries that underwent a rapid transformation in the past experienced a similarly steep increase in the migration rate during that transformation; projections indicate that the same pattern can be expected to emerge in the slow transformers in the coming decades, which points to some degree of convergence (Arslan, Egger and Winters, 2018). This expected upswing in rural-to-urban migration is likely to be marked by a youth migration rate that outpaces the adult migration rates seen in slow-transforming countries so far, most of which are in sub-Saharan Africa (see **FIGURE 5.6**). The nature of these trends will depend heavily on how fast the demographic transition takes place. **In the case of international migration, youth are not the most likely to migrate, but the probability that they will do so is greater in lower-income countries.** The median age of international migrants from developing countries is 34, but from the least developed countries it is only 29. Thus, young people do not make up the largest share of international migrants, but youth migration becomes more likely in lower-income countries. In these countries, women are also slightly less likely to make an international move than men (UNDESA, 2017).

Dynamics of change as potential drivers of rural youth migration

The rural transformation process decreases the distances between rural and urban areas, and particularly between rural areas and small towns, allowing for more connectivity and access to more off-farm employment opportunities. In this context, migration becomes a more fluid form of mobility involving more seasonal, circular and thus temporary moves. This type of migration offers an opportunity to diversify income sources in situations of economic stress, to adapt to weather variations and external shocks and to raise average household income levels. Rural and secondary towns have been shown to mediate the flow of inputs, goods and services between rural hinterlands and larger urban centres, thereby generating accessible non-farm forms of employment for rural people (Haggblade, Hazell, and Reardon, 2007). This contributes to poverty reduction and to positive spillovers from urban centres through consumption linkages, urban-rural remittances and upward pressure on agricultural wages (Lanjouw and Murgai, 2009; Cali and Menon, 2013). Rural diversification and secondary town expansion have been found to have yielded, on average, faster reductions in poverty and more inclusive growth patterns than metropolitization did in Tanzania and India, respectively (Christiaensen, De Weerdt and Todo, 2013; Gibson et al., 2017). As the transformation of agrifood systems proceeds, mobility is expected to play an important part in the livelihood choices of rural youth.

The digital revolution is expected to influence rural youth aspirations and associated migration intentions. Global evidence on international migration intentions covering the period from 2010 to 2015 indicates that migration intentions are highest among young people, although those intentions are not necessarily realized (Mendola, 2018). The digital revolution has made much more and better information available and has lowered the opportunity costs of leaving known social and economic networks behind. Mobile money transfers reduce transaction

costs and thus can broaden the scope of the gains realized from migration to include the household and communities of origin (see spotlight entitled "Remittances").

Climate change is expected to further amplify migration trends. Rigaud et al. (2018) estimate that, by 2050, slow-onset impacts of climate change will have forced around 143 million people to have moved to other locations within their countries if no action is taken to counteract this phenomenon. The evidence that weather variability is a main driver of migration, especially from agriculturally dependent countries or areas, is rapidly mounting (Missirian and Schlenker, 2017; Cattaneo and Peri, 2016; Cai et al., 2016; Barrios et al., 2006; Jessoe, Manning and Taylor, 2018; Mastrorillo et al., 2016; Dallmann and Millock, 2017). These are the same countries in which the rural youth population is also the largest in relative terms, making climate-related migration pressures particularly relevant for this segment of the population (see chapter 7). An analysis of eight countries in Central America found that young people are more likely to migrate than adults in response to natural disasters, especially droughts (Báez et al. 2016). Furthermore, such weather shocks have been identified as robust drivers of the onset of conflicts and as potential triggers for migration (Hsiang, Burke and Miguel, 2013; Burke at al., 2010; O'Laughlin et al., 2012; Tol and Wagner, 2010; Raleigh and Urdal, 2007).

Investment in rural development can make migration a choice rather than a necessity for rural youth

Rural development that fosters productive and well-connected rural markets can improve opportunities for rural youth. For rural youth to navigate the opportunities that arise, they need access to information and the skills required to identify feasible mobility options. Targeted investments that address the constraints that hinder rural youth from engaging productively in rural economies have the potential to make rural youth out-migration a choice rather than a necessity (FAO, 2018). In the case of climate-related threats specifically, policymakers need to assess whether rural areas face unavoidable risks that call for safe and orderly migration management or whether the risks can be addressed by means of investments in adaptation, resilience and mitigation (Rigaud et al., 2018). For public policies to enhance the positive developmental impacts of migration and reduce its negative effects on rural communities, the interrelationships between public policies and migration decisions and outcomes need to be assessed throughout the policy design process (OECD, 2017). Embedding migration in broader rural development strategies will be of key importance in making mobility a viable option for rural youth who are striving to become productive, connected and empowered.

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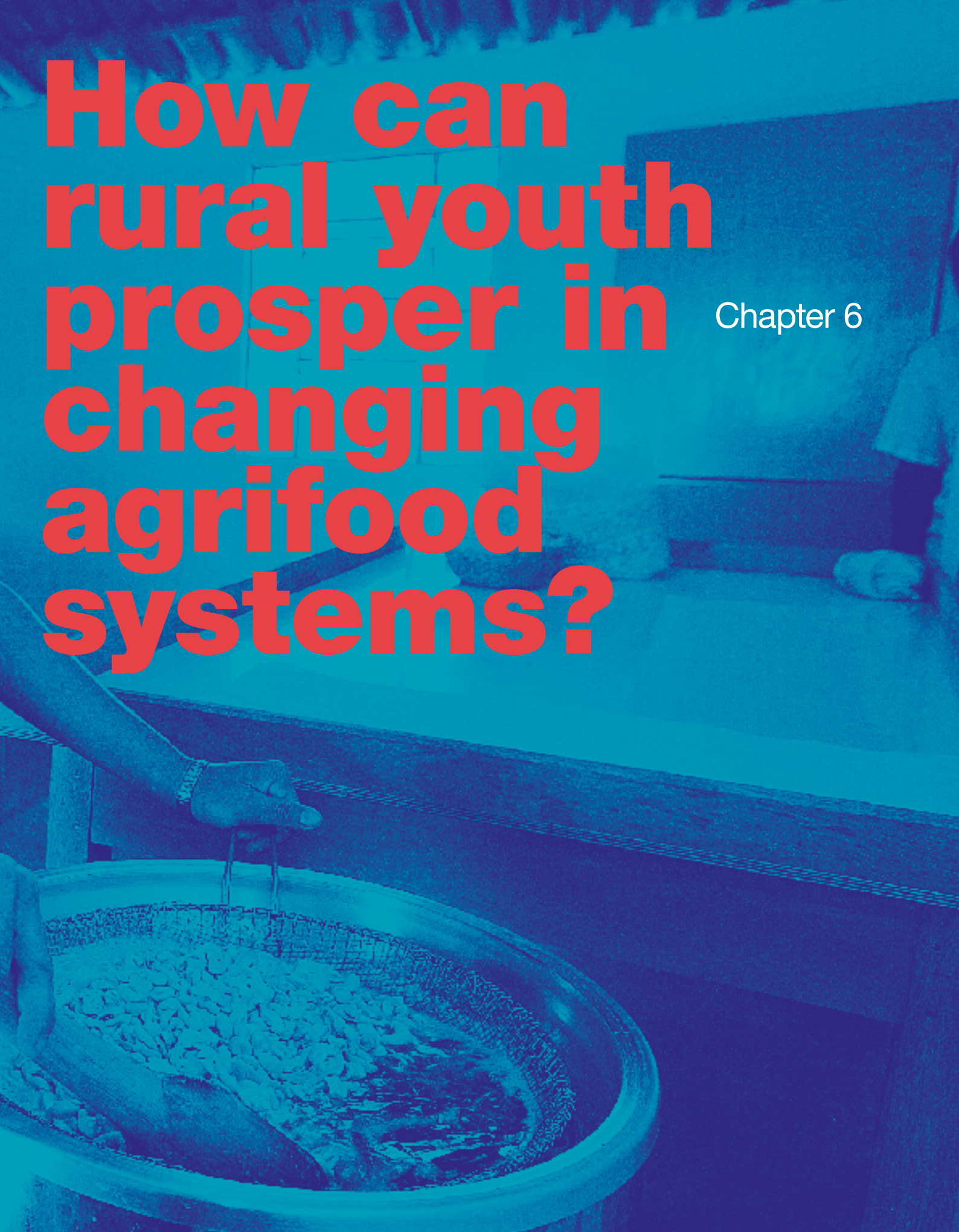


How can rural youth prosper in changing agrifood systems?

Chapter 6

As this report makes clear, the rural transformation process has major implications for the opportunities available to rural youth, the pathways open to them and their prospects for becoming productive, connected individuals who are in charge of their own futures. For most rural youth, the main setting in which they will experience these changes and build their future is the agrifood system (AFS), which encompasses the entire set of supply chains stretching from the supply of inputs and services, through production on the farm and to all the post-farm activities that result in the retailing of food and other agricultural commodities to consumers.

This chapter focuses on how the agrifood system is transforming, how rural youth are engaging with it and how this pattern of engagement varies across the country transformation and rural opportunity space typologies that have been used to structure many of the analyses presented up to this point. It also looks at how diminishing access to land in Africa is limiting youth employment opportunities. Finally, it examines how the transformation of the agrifood system in developing countries is shaping the diets of rural young people and giving rise to a dual malnutrition burden of high underweight and overweight rates at the same time.

Across much of the developing world, agrifood systems are at a transformational stage that offers many opportunities for rural youth

The agrifood systems of Africa, Asia and Latin America have changed rapidly over the past 30 years. Some 40 years ago, these were traditional systems dominated by smallholder production mixed – in Latin America and portions of Asia – with large export-oriented plantations. Only a small share of output reached the market, and little value was added after the produce left the farm. Staple foods were the mainstay of people's diets, and processed foods were consumed mainly by an urban elite. Nearly all food-related employment was located on the farm. Only a very small portion of the rural population was involved in marketing, processing, packaging and transporting farm produce. The situation today is dramatically different.

The pace of change in agrifood systems is likely to remain swift, even if the strong economic growth of recent decades slows (McMillan et al. 2017; IMF, 2018). This rapid, sustained change will be driven by a number of factors: continuing urbanization, especially the growth of secondary cities and rural towns; rising rural population densities that facilitate trade and reliance on markets; and the vastly faster flows of information and ideas made possible by the digital revolution, global value chains and falling transportation costs.

The transformation of the agrifood system is aligned with a country's structural and rural transformation

As agrifood systems transform, they pass from the traditional stage to a transitional and finally to a modern stage (Reardon et al., 2012; IFPRI, 2015; HLPE, 2017). This transformation can occur at one place over time or at one time over different places and may differ for different products. Thus, for example, the agrifood systems in Bangladesh and Nigeria have changed dramatically over time, yet, at any given point in time, the systems serving the capital cities of those countries have been quite different from the ones serving smaller urban areas in the middle of production zones. Thus, an agrifood system's predominant stage of transformation in a country should be thought of as coexisting with all the other stages in other parts of that country.

Traditional agrifood systems. At the traditional stage of the agrifood system, food is transported only over short distances, and few transactions are conducted between the time it leaves the farm and reaches the consumer's plate. Production is small in scale and dispersed, and most of the food is consumed on the farm. Grains and other staples account for from 60 to 70 per cent of people's diets. Market supply is highly seasonal, owing to high storage costs, and mostly unprocessed. Consumers transform the products themselves in the home or take them to custom mills. Retailing is primarily sited in small traditional markets, informal shops beside roadways or pathways, and traditional formal shops. Quality differentiation is minimal, with largely indistinguishable vendors selling the same products in the same way at about the same small scale. Examples of traditional systems are staples markets in rural villages in Mali and hill villages in eastern Myanmar or food markets in the hinterlands of Bolivia. These are the poorest areas, furthest from cities and least connected by roads in countries that have undergone very little transformation.

These systems generate little post-farm value added and thus create few jobs off the farm. The traditional stage thus offers the sparsest opportunities for the employment of rural youth in small enterprises or wage employment in the agrifood system. Low-technology, low-profit farming is the main option.

Transitional agrifood systems. As incomes rise and urban populations expand in countries that have achieved some degree of transformation, diets shift from grains and other staples to more processed foods, which unleashes a wave of structural change in the agrifood system. Because the urban share in the population is higher in these countries, both staple and non-grain food chains emerge in more productive zones. Food is transported over longer distances, and more transactions take place between the time the food leaves the farm and when it reaches people's plates. The urban share of the food market is large, at between 50 and 70 per cent. Production of non-grains such as fresh produce, oil seeds, dairy products and poultry and other meat grows rapidly, and value chains expand dramatically. Input use rises, along with farm demand for services such as spraying and ploughing. With larger, more attractive markets, traders begin to invest in more storage, including cold storage, making market supply less seasonal. Consumers now purchase staples primarily in processed form – for example, as packaged and branded maize meal in the cities and towns of East Africa. Ultra-processed foods begin to be widely available. Off-farm labour in the processing industry rises rapidly, and women, who are responsible for most food preparation in the household, gain time for other/remunerative activities. Supermarkets spread fast, although their share of food retail remains small. Consumption of food away from home booms, and small-scale food vendors emerge to meet the demand. Small and medium-sized firms still dominate, but larger firms start

emerging in marketing and processing industries. Examples of transitional agrifood systems include the farmed fish sold in Dhaka (Hernandez et al. 2017), teff sold in Addis Abeba (Minten et al. 2016), cold-stored potatoes sold in the Delhi market (das Gupta et al. 2010), maize from northern Nigeria sold to supply mills in the south and chicken sold in Ibadan (Liverpool-Tasie et al. 2017).

These systems generate much more value added and off-farm employment. This is the boom stage for youth employment opportunities in small and medium-sized enterprises and, to a lesser extent, in wage employment in the agrifood system and in more remunerative and commercially oriented farming.

Modern agrifood systems. As incomes continue to rise and urban populations expand further, people's diets shift into heavily processed and animal-source foods. The agrifood system changes to meet this new demand, with food chains becoming linked to cities primarily in the more transformed countries and to exports in the more productive zones closer to markets and ports. Goods travel long distances, but there are fewer transactions along the way than during the transitional stage and they are conducted by larger and more integrated firms. Medium-scale and larger farms have emerged, along with larger food processing companies. Most food is processed in some form before being sold to consumers, and ultra-processed foods are common. Supermarkets hold most of the market share at the retail level, the consumption of food away from home continues to boom, and demand for fast food grows rapidly (for Latin America, see Popkin and Reardon 2018). Quality differentiation has advanced and is dominated by private standards, though public regulation and standards are also more advanced. Food safety and nutrition become important concerns for consumers. Seasonality is minor, as foods reach consumers from a wide array of production zones both in the country and overseas. Advertising has exploded, and food choice as a statement of values and lifestyle is beginning to emerge. Examples of modern agrifood systems include strawberries that are transported from Michoacán to supermarkets in Mexico City (Berdegué et al. 2007), milk to Nestlé in Brazil (Farina et al. 2005), tilapia to large processors in Guangdong and on to export or sale to Chinese cities (Bai et al. 2017) and chicken to Zartech in Nigeria (Liverpool-Tasie et al. 2017).

The level of value added is very high but resides mostly in large, capital-intensive firms. This is a challenging time for young people seeking employment. Employers require highly developed cognitive and non-cognitive skills, automation is replacing low-skilled manual workers, entry requirements for businesses (including market-oriented farming) are stiff, and the number of small and medium-sized enterprises and small farms is dwindling. A few less productive farms and firms may survive in small, primarily rural "protected" hinterland areas.

Most agrifood systems in developing countries are in the transitional stage, offering many opportunities for rural youth

Most agrifood systems in West and East Africa, South Asia and parts of South-East Asia are at the transitional stage. This stage offers rapidly expanding opportunities off the farm for young people and booming urban markets for young entrepreneurial farmers. At the farm level, youth have the opportunity to do a "different kind of farming" that is more profitable, much more technology-enabled and more closely tied to markets than traditional farming is. The digital revolution (see chapter 8) is rapidly enabling this new kind of farming. Capitalizing on these opportunities, however, takes higher skill levels than most rural youth currently possess. The risk is that they will be out-competed by entrepreneurial urban youth who better understand the urban markets that are the basis

for these opportunities and who have access to land in nearby peri-urban areas, where rental and sales markets are more active.

In the midstream, opportunities are abundant for self-employment in small and medium-sized enterprises and for some forms of wage employment in marketing, small-scale food processing and food sold for consumption away from home. Evidence shows that opportunities for young women are especially good in areas such as food preparation away from home and small-scale food processing (Tschirley, Kondo, and Snyder, 2016). Entry barriers and threshold investments are much higher than in traditional agrifood systems but not as high as in modern systems. The important assets to have at this stage are skills, transport capabilities, the ability to produce commodities (which do not yet have to meet strict standards in terms of quality or safety) for urban markets and the qualifications needed to meet the job requirements of such firms.

The agrifood system is a key livelihood channel for rural youth

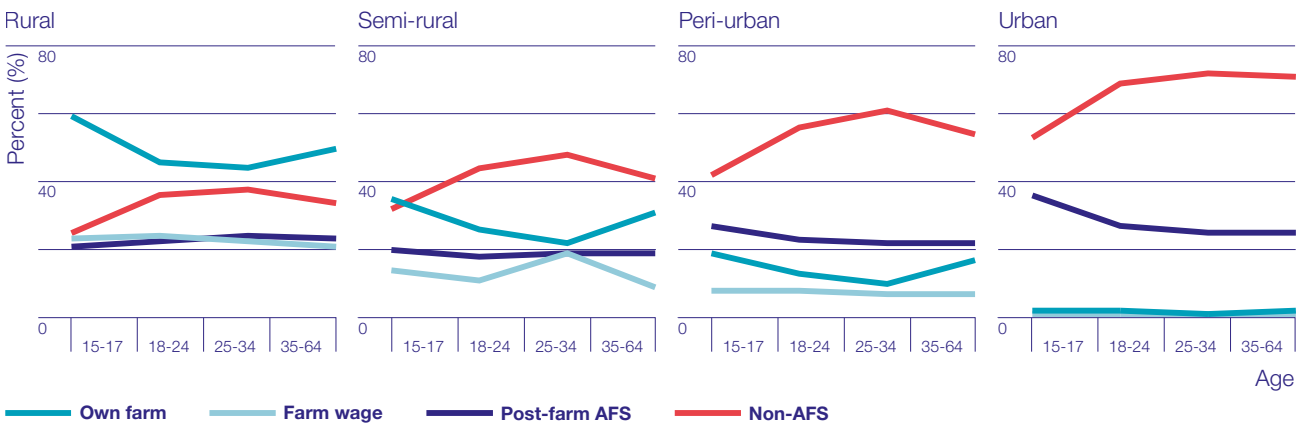
An analysis of survey data (see chapter 2) reveals key patterns in youth engagement in the economy on the farm, off the farm within the agrifood system and off the farm outside the agrifood system. A comparison of non-farm wage work and self-employment indicates, in general, that wage work delivers higher earnings than the predominantly informal types of self-employment seen in most developing countries and that wage work outside the agrifood system yields the highest returns of all.

Rural youth use farming as an entry point into gainful employment but then quickly diversify

This pattern of youth engagement in the economy is robust across developing regions and across countries at different levels of transformation. An analysis of how people distribute their total work effort across farming (on their own farm, a family farm or someone else's farm for wages), employment off the farm in the agrifood system (either via self-employment or in a wage job) and outside the agrifood system reveals a steady decline in the share of work effort devoted to farming as population densities rise; in urban areas, the share of the total work effort devoted to farming drops to the low single

FIGURE 6.1 Rural youth use farming as an entry point into gainful employment but then quickly diversify

Share of total full-time equivalent units (FTEs) devoted to different work activities by rural youth along the rural-urban gradient



Notes: AFS: agrifood system. The analysis covers people of all ages who work and seeks to show how people distribute their total work effort (measured in shares of full-time equivalent units) across sectors. Calculations are based on simple unweighted means of household survey data from 12 countries in 3 regions: sub-Saharan Africa (SSA), Asia and the Pacific (APR) and Latin America and the Caribbean (LAC).
Source: Authors' calculations based on 12 socio-economic household surveys conducted in LAC, SSA and APR. Indonesia was dropped from the FTE calculations because inconsistent survey weights interfered with comparability.

digits (see **FIGURE 6.1**). For work off one's own farm, work outside the agrifood system takes up the lion's share of total work effort in all but the most rural (least dense) areas. The only exception is the youngest workers (ages 15-17) in semi-rural areas, who devote slightly more of their time to farming than to work outside the agrifood system. In semi-rural, peri-urban and urban areas, the level of work effort outside the agrifood system is approximately double the share of the post-farm portion of the agrifood system.

The youngest workers in rural and semi-rural areas put more time into farming than workers in every other age group in every area. This pattern changes for older young people (ages 18-24), with farming accounting for less than half of their total work effort even in the most rural areas. Farming accounts for a smaller portion of work effort than work outside the AFS in semi-rural areas and than post-farm AFS work and work outside the AFS in peri-urban areas (and, of course, in urban areas). Thus, the young people in these two age groups are quite different. The youngest workers tend to come from the poorest families and have the lowest levels of educational attainment. The older group of young workers is larger (because more young people in this age group work than is true of the younger group), less poor and more likely to have completed secondary school.

This pattern of work effort distribution does not vary systematically across the different levels of country transformation but does vary across regions. In Africa and in Latin America and the Caribbean, farming remains a far more important source of employment for the youngest workers than for other age groups regardless of where they live. For example, in Africa, even in urban areas the youngest workers put nearly 20 per cent of their work effort into farming, while the share for other age groups is in the low single digits. In peri-urban and intermediate zones, the youngest workers also far exceed other age groups in terms of their allocation of effort to farming. In Latin America, the youngest workers in semi-rural and peri-urban areas put nearly 20 per cent of their work effort into farming, while no other age group puts in more than 12 per cent. In Asia, on the other hand, the youngest workers put more effort than other age groups into farming only in the most rural areas. In other areas, the oldest workers (ages 35-64) put more time into farming than the other age groups, including the youngest.

Employment in the post-farm agrifood system becomes increasingly important for youth in more densely populated areas

For all age groups, the share of total work effort in the post-farm agrifood system rises systematically with population density, climbing from 14 per cent overall in the most rural areas to 25 per cent in urban areas, and its share rises much more rapidly for youth than for other age groups. Among the youngest workers (ages 14-17), the level of participation in the post-farm agrifood system increases nearly twofold between rural areas (11 per cent) and semi-rural areas (20 per cent) and rises further in peri-urban areas (27 per cent). Among older youth, this increase is less dramatic but still considerable, with the corresponding figures being 13 per cent for rural areas, 18 per cent for semi-rural areas and 23 per cent for peri-urban areas. The shares also rise for young adults and older workers, but not by as much. The post-farm agrifood system in peri-urban and urban areas is more important as a source of livelihood for young people (in both the younger and older age groups within this category) than it is for other age groups. In peri-urban areas, for example, the youngest workers devote 30 per cent of their working time to the post-farm agrifood system, while young adults (ages 25-34) and older workers (ages 34-64) devote barely more than 20 per cent.

Again, there is some regional variation in these patterns. The pattern just described, with the post-farm agrifood system becoming progressively more important for youth than for non-youth in more densely populated areas, holds true in Asia and Latin America but not in Africa. There, youth in peri-urban and urban areas allocate their effort to the post-farm agrifood system at rates roughly similar to those observed for all other age groups.

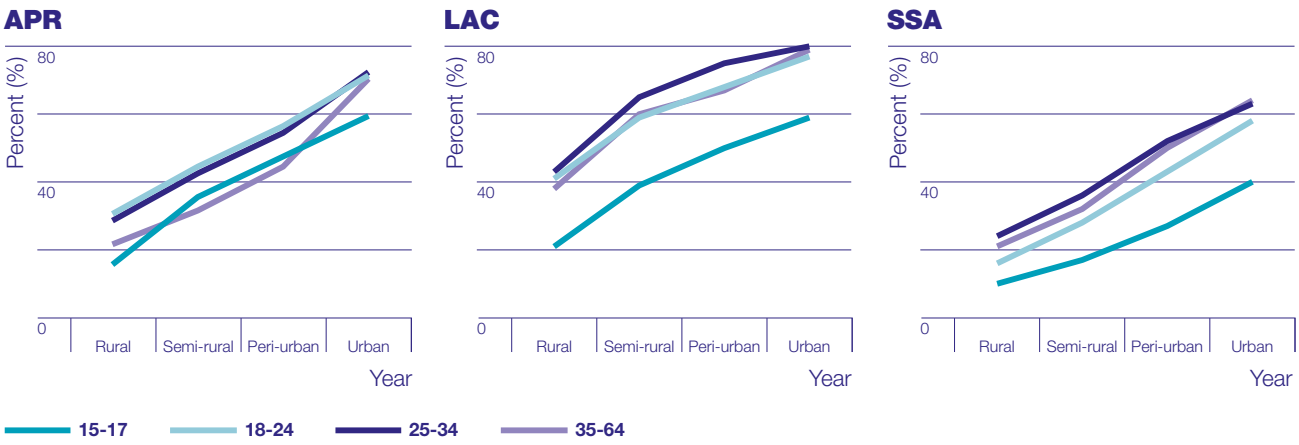
Youth in Asia have better access to work outside the agrifood system than youth in other developing regions

Wage labour outside the agrifood system generally delivers the highest returns to labour (Tschirley, Kondo, and Snyder, 2016). On a regional basis, such wage work takes up the largest share of work effort in Latin America and the Caribbean, followed by Asia and Africa (see **FIGURE 6.2**). This is consistent with expectations, given generally high levels of transformation in Latin America and low levels in Africa. The pattern of access to such work for the different age groups is not as predictable, however. The youngest workers in Latin America and the Caribbean and in Africa are consistently at a disadvantage in terms of access to work outside the agrifood system, regardless of whether they live in densely settled or less densely settled areas. In Asia, however, the youngest workers devote about the same share of their working time as the oldest workers do to work outside the agrifood system, with youth in rural and urban areas being at a slight disadvantage and those living in semi-rural and peri-urban areas having a slight advantage in this respect.

A related difference in the patterns is that, in Latin America and the Caribbean and in Africa, young adults devote the largest share of their work effort to activities outside the agrifood system regardless of the density of the areas in which they live. Again, this is not the case in Asia, where older youth (ages 18-24) devote more of their work effort than other age groups to work outside the agrifood system, with these young people consistently having a small advantage over young adults and a larger advantage over all other age groups. Taken together, these two patterns point to a large-scale shift of youth out of the agrifood system in response to rapidly transforming economies in this region.

FIGURE 6.2 The youngest workers are systematically disadvantaged in obtaining work outside the agrifood system, except in Asia

Share of work time in full-time equivalent units (FTEs) devoted to work outside the agrifood system, by age group and rural-urban gradient locale



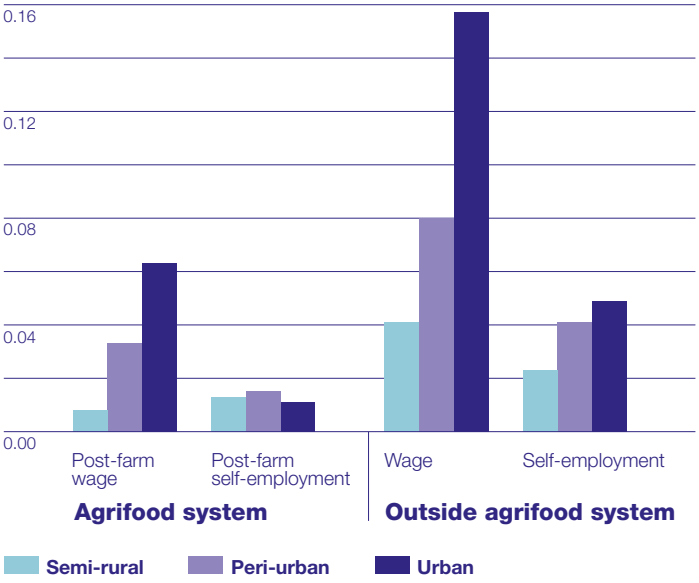
Source: Authors' calculations based on 12 socio-economic household surveys conducted in LAC, SSA and APR. Indonesia was dropped from the FTE calculations because inconsistent survey weights interfered with comparability.

More educated and older male workers engage in wage work outside the agrifood system more than other workers

A regression analysis shows that age, education and gender are jointly associated with sectoral and functional allocations of work effort. This analysis focuses on the total amount of work (total full-time equivalent units (FTEs)) performed in six sectoral functional work categories: own farm, someone else's farm (farm wage work), wage work in the post-farm agrifood system, self-employment in the post-farm agrifood system, wage work outside the agrifood system and self-employment outside the agrifood system. Across most of the developing world, work on someone else's farm is the least attractive option and is an indicator of poverty and a lack of options, while work for a wage outside the agrifood system typically delivers the highest return (as do all types of wage work other than on farms) and is highly sought after but scarce.

FIGURE 6.3 Wage work off the farm skyrockets as population density climbs, especially outside the agrifood system

Increase in full-time equivalent units (FTEs) worked, by sectoral and functional classification, compared to the most rural areas



Notes: This analysis focused on the total amount of work (measured in total full-time equivalent units (FTEs)) rather than shares of FTEs, as in figures 6.1 and 6.2. Authors' calculations used ordinary least squares (OLS) regressions of sectoral/functional FTEs against rural-urban gradient categories, with dummies controlling for the region, based on household survey data from 13 countries in 3 regions: sub-Saharan Africa (SSA), Asia and the Pacific (APR) and Latin America and the Caribbean (LAC).
Source: Authors.

One pattern evident in the regression results that was expected but whose magnitude is surprising is that work off the farm increases as population densities rise. The strong upswing in this category is driven primarily by a skyrocketing supply of wage work, especially wage work outside the agrifood system (see **FIGURE 6.3**). In contrast, post-farm self-employment in the agrifood system rises initially with the move from remote rural areas to denser semi-rural areas but then does not continue to rise as density increases. Self-employment outside the agrifood system increases steadily, but much less than either type of wage work. This pattern is found in all three regions covered in this analysis (Africa, Asia, and Latin America and the Caribbean) and highlights the importance of promoting secondary cities and rural towns and of linking them to rural areas. These linkages spur rural settlement along transport lines, thus enhancing economic connections even outside urban areas. Thus, when it comes to commercial opportunities, the population density of rural areas – not just residence in urban areas – matters.

The regression results, which are highly consistent with expectations in terms of broad patterns, deliver new insights into the roles of age, gender and education in employment. The probability of working outside the agrifood system, and in particular the probability of engaging in wage work, are negatively associated with being a woman, being young and not having a secondary education (see **FIGURE 6.4**).

FIGURE 6.4 Being young, female and less educated has strong negative effects on economic connections

Differences in the distribution of total work effort between different groups

Notes: Computed by authors from individual-level OLS regressions of total FTEs to compare age groups (15-17 and 18-24), females vs. males, and possession of a secondary education or not, while controlling for the region, rural-urban gradient (rural, semi-rural and peri-urban) and agricultural potential based on household survey data from 13 countries in 3 regions: sub-Saharan Africa (SSA), Asia and the Pacific (APR) and Latin America and the Caribbean (LAC).
Source: Authors.

Diminishing access to land in Africa limits youth opportunity

Sub-Saharan Africa is often viewed as having an abundant supply of land. As a consequence, issues of access to land have received less attention than in other developing regions. Yet, as elsewhere, access to land is a problem, especially for rural youth. Rising rural population densities, the fact that people are living longer and new commercial incentives for supplying food to urban areas (where incomes and food demand are rising) are all boosting the demand for land for farming and, at the same time, reducing young people's access to land, which diminishes their livelihood opportunities.

Population densities in rural Africa are not low

While simple measures of population density provide some support for the notion that land is available in abundance in Africa – at 45 people per square kilometre, population density in sub-Saharan Africa is far below what it is in East Asia (130) and South Asia (375) – a large majority of the rural youth in that region live in areas with fairly high population densities (see chapter 2). In sub-Saharan Africa, 22 per cent of the population lives in peri-urban areas with an average population density of nearly 1,300 people per square kilometre, which is higher than the average population density of Bangladesh. And another 21 per cent of the population lives in semi-rural areas with an average density of 345 people per square kilometre, which is nearly as high as the average for South Asia. These patterns are a result of historical movements of people to areas with a strong agricultural potential and more recent movements to areas closer to roads, cities and towns in pursuit of better market connections. As a result, most rural people in sub-Saharan Africa live in areas with relatively high population densities, making the prospect of gaining access to land more challenging.

Other factors also make gaining access to land more challenging for rural youth

Three other factors exacerbate the challenges faced by young people hoping to gain access to land. As a result, an increasing proportion of young Africans are obliged to turn to rental markets in order to acquire land or to relocate. The first factor is that a smaller proportion of young Africans are inheriting land because it has become so scarce (Jayne et al. 2014a). Second, rural youth who do inherit land are coming into that inheritance later because, with increasing longevity, their parents are farming for longer. Mean lifespans in sub-Saharan Africa, excluding South Africa, increased from 48 years in 1980 to 60 years in 2016 (World Bank, 2016). Third, the rise of urban markets and better connections between rural and urban areas have spurred commercial investment in farming to serve the domestic market, driving rapid changes in land ownership and distribution. Medium-scale farms owned by entrepreneurial, educated and more capitalized African investor-farmers account for an increasing portion of agricultural land and national agricultural output (Jayne et al., forthcoming). Medium-scale farms of 5-100 hectares occupy 30-50 per cent of total farmland in Ghana, Kenya, Malawi and Zambia (Jayne et al., 2016). If these trends continue, medium-scale farms will account for a majority of output in many African countries within the next decade.

A study of medium-scale farmers in Ghana, Kenya and Zambia found that just 5 per cent were smallholder farmers who had graduated into medium-scale farming. About half had obtained their land later in life and had financed its acquisition with non-farm income. About 60 per cent had taken up farming after accumulating wealth while engaged in non-farm employment in urban areas. The remaining 35 per cent were

influential rural-based farmers who may have been farming for many years even though their influence and wealth derived from non-farm sources (Jayne et al., 2014b).

These patterns are problematical because of the slow pace of Africa's demographic transition and rural transformation processes

Young Africans' delayed access to smaller amounts of land affects their livelihood choices. For one, this situation may compel many rural youth to remain for a longer time with their parents as unpaid workers on their parents' farm. Young people in their twenties are more likely to have accumulated some savings and so to be able to move away from their parents' home and rent their own land or diversify into off-farm employment.

Youth and young adults are significantly more likely than older people to rent land, and rented land constitutes a major portion of the land worked by people in these age groups. This pattern is most common in more densely populated areas. For example, among households headed by a young person (under 24 years of age), 14 per cent of them rented land in Tanzania, 13 per cent in Ethiopia and 25 per cent in Uganda. Moreover, rented land made up a large share of the land that these households farmed: 93 per cent in Tanzania, 48 per cent in Ethiopia and 62 per cent in Uganda (Yeboah et al. 2018b). The share of households that rent land rises among households headed by young adults (25-34 years of age) to 34 per cent in Ethiopia and 30 per cent in Uganda. The corresponding shares were much lower in Zambia (3 per cent) and near zero in Niger.

Because renting does not require the capital that buying land does, land rental markets are a rapidly growing option for African youth wishing to acquire farmland. However, the insecure tenure associated with rented land means that renters may not be able to keep the land for more than a season or two, and they may therefore have little incentive to make long-term productivity-enhancing investments (Yamano, Otsuka and Place, 2011). Another important consideration is that the inheritance of land greatly increases the intention of young landowners to remain engaged in agriculture, whereas young people who are renting land do not have this incentive (Bezu and Holden, 2014; Mdoe et al., forthcoming; Muyanga and Jayne, forthcoming).

Land markets are also growing rapidly, but most rural youth lack the financial resources to buy land. A growing concern, therefore, is that land sales and the accompanying alienation of land from customary tenure systems (through title conversion) may improve wealthier investors' access to land at the expense of rural youth. More evidence is required on this topic.

On their own, these patterns are not necessarily a cause for concern. However, population growth, rising incomes and expanding urban demand are putting more pressure on land, increasing its value and making it harder for resource-poor youth to gain access to it. In addition, the population and growth dynamics now being observed in Africa make the situation worse. Africa's demographic transition is proceeding very slowly (see chapter 5), and this is resulting in rapid population growth, a slow pace of structural and rural transformation and slow growth in secure forms of off-farm employment that could replace precarious self-employment. The continent's slow demographic transition puts it at risk of missing out on much of the demographic dividend that has been a motor of growth in so many other countries. This puts rural youth in Africa in a potential double bind, as they may find it hard to secure a remunerative livelihood in farming due to land constraints while also being faced with an off-farm labour market that does not offer attractive returns.

Across the developing world, diets are changing at an unprecedented rate, making diet-related challenges a youth issue

Nutritional choices during the critical transitional periods of adolescence and early adulthood can affect youth livelihood opportunities

Proper nutrition in childhood and adolescence builds a strong foundation for a healthy productive and reproductive life. Adolescence and early adulthood are periods of economic, social and biological transitions that have a major impact on dietary choices and thus on biological development of youth. During childhood, nutritional outcomes are shaped by factors out of a child's control. During the transition to adulthood, youth start to make independent dietary choices that, in combination with the biological changes that come with puberty, further shape their nutritional outcomes. Their dietary choices are influenced by socio-economic status, role transitions (to employment and parenthood), social and cultural norms, and aspirations and lifestyle preferences shaped by exposure to technology and the media. These choices are increasingly resulting in unbalanced nutrition, overweight and obesity and related non-communicable diseases. However, adolescence can also provide a major window of opportunity for "catch-up" growth by addressing chronic nutritional deficits that began in childhood.

The rural transformation process has given rise to a double burden of malnutrition for rural youth: underweight and overweight

The transformation of agrifood systems is shaping the diets of rural youth in developing countries. As more food is purchased, it is becoming more processed, and more of it is prepared away from home. Though these changes are more widespread in urban areas, they are increasingly occurring in rural areas as well. For example, about half of all food consumed in rural areas of east and southern Africa is purchased in markets (Reardon et al., 2018). Processed food accounts for 56 per cent of spending on food in urban areas and 29 per cent in rural areas (Tschirley et al., 2015). Another study found that 73 per cent of household food budgets in urban areas and 60 per cent in rural areas go to processed foods (Reardon et al., 2014). In Tanzania, 20 per cent of purchased food and drinks are prepared away from home; in Nigeria, the figure is 15 per cent (Tschirley, Kondo and Snyder, 2016). Diets are moving away from cereals and other starchy staples, which now make up less than 40 per cent of the diet in both rural and urban areas across the developing world (Reardon et al., 2018), while the remainder is made up largely of perishable produce and animal-source foods.

The early stages of rural transformation usually bring improvements in the nutritional status of rural youth. Higher productivity and incomes are accompanied by an increase in dietary diversity and food security, with very positive effects for children and youth. From 1976 to 2016, the prevalence of underweight children declined sharply in developing countries for both boys and girls. Among people between the ages of 20 and 24, the incidence has fallen to 11 per cent (see **FIGURE 6.5**). The prevalence of underweight adolescent girls is falling in all regions except South Asia, Eastern Europe and Central Asia. The largest declines in underweight prevalence are in sub-Saharan Africa and Asia, with particularly steep decreases being observed in urban Nigeria (a 1.60 per cent decline annually over 1976-2016), urban Mali (a 1.20 per cent decline) and in rural Zambia (a 1.17 per cent decline). Countries whose rural areas have transformed rapidly report the

FIGURE 6.5 The prevalence of underweight is falling and overweight is rising among youth in developing countries, especially in the case of girls and the youngest adolescents

Trends in the double burden of malnutrition, by age and gender

Source: Kadiyala et al. (2018) based on NCD-RisC data.

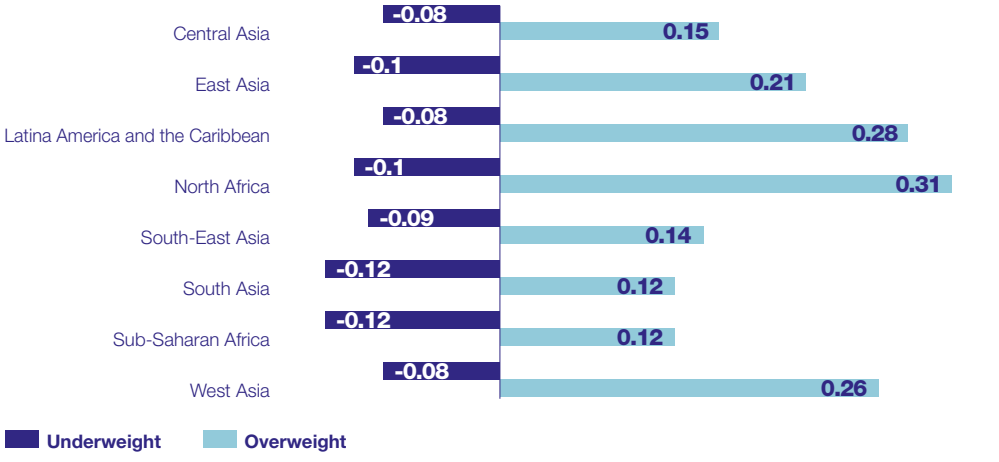
smallest shares of underweight people in their populations, but the least transformed countries have seen the largest declines, which have amounted to 12 percentage points.

Rural transformation is also linked to the increasing prevalence of overweight and obesity, especially as a country moves firmly into the transitional stage of the agrifood system transformation. Changes in the food environment associated with this transformation (promotion of "junk" foods, increased availability of processed foods) can promote unhealthy dietary behaviours. Large food companies target much of their marketing to youth, and the small-scale local production of unhealthy foods is also expanding rapidly. Youth are exposed to large numbers of advertisements for unhealthy foods and drinks on their way to and from school, as well as through the mass media (Chacon et al., 2015; Kelly et al., 2015). Key food marketing strategies include promoting *fun-for-you* foods (chips, sweetened beverages), *good-for-you* foods (diet beverages, cereal bars) and *better-for-you* foods (breakfast cereals, packaged juices) (Elliott, 2015). Yet nearly all these foods have high levels of fat, sugar, salt and simple carbohydrates that, except in tiny amounts, cannot be considered part of a healthy diet.

As a result of these dietary changes, childhood overweight and obesity are rising as fast or faster than underweight is falling in every region of the developing world (see **FIGURE 6.6** and Kadiyala et al., 2018). In countries with high levels of rural transformation, the incidence of underweight decreased by 11 percentage points in the period 1976-2016, but the incidence of obesity and overweight increased by 24 percentage points. Studies on India, China and Mexico all point to a considerable increase in the incidence of obesity and overweight among children and adolescents (Midha, Nath and Kumari, 2012; Gordon-Larsen, Wang and Popkin, 2014; de Onis et al., 2007). The highest prevalence of overweight in rural areas is found in Egypt and in some Latin American countries (Mexico, Nicaragua and Bolivia). For rural adolescent girls, the highest prevalence of

FIGURE 6.6 The prevalence of overweight among youth everywhere is rising fast, while underweight is declining only slowly

Percentage point change in underweight and overweight/obesity prevalence for young people between the ages of 12 and 24, by region, 1976-2016



Source: Kadiyala et al. (2018) based on NCD-RisC data.

overweight is reported in North Africa (41 per cent), followed by Latin America and the Caribbean (21 per cent) (Jaacks, Slining and Popkin, 2015). Early adolescents are seeing the largest increases in the incidence of overweight (see **FIGURE 6.5**). Countries starting at a higher level of rural transformation appear to experience a more rapid increase in overweight and obesity.

These changes in diet are creating new burdens of malnutrition for young people, including many in rural areas: the incidence of stunting (short for age), though falling, remains high; overweight and obesity are rising rapidly; and micronutrient deficiencies are being found even among overweight youth owing to the poor nutritional quality of many processed foods and beverages (Development Initiatives, 2017; Haddad et al., 2016). The top risk factor for this global burden of disease is low dietary quality (Lozano et al., 2012). Therefore, although many developing countries must still grapple with persistent nutritional deficiencies, they are also witnessing escalating levels of diet-related chronic conditions such as cardiovascular disease and diabetes (Popkin, 2014; Popkin et al., 2001). Micronutrient deficiency is often called "hidden hunger" because it may exhibit no visible signs but can have major long-term negative effects. Iron deficiency (anaemia) in women of reproductive age is one such micronutrient deficiency (FAO et al., 2018).

Policy priorities for an inclusive and healthy AFS transformation process

This discussion suggests four key areas in which policymakers in developing countries can invest in order to increase the positive opportunities and dampen the negative implications for rural youth stemming from the AFS transformation.

The first priority needs to be **broad-ranging rural development in order to increase opportunities**. Given the current transitional stage of most developing-country AFSs, many of the opportunities for rural youth, especially in Africa, are in self-employment, which, in most cases, is a difficult sector for young people to enter and

obtain good strong returns. Increased access to wage labour would be eagerly welcomed by most young people. Yet this phase also features extremely rapid growth in the market demand for food, much of which entails at least a basic level of processing. And because this demand is growing rapidly in rural areas, as well as urban zones, opportunities for agribusiness investment are very strong.

Promoting this kind of growth, which will benefit rural youth, requires two things. First of all, a positive enabling environment is needed to facilitate investment and to actively remove barriers to it. Such an environment needs to include more efficient systems for the registration of new firms (and, in particular, systems that will eliminate duplicate registration requirements), improved access to formal credit and, under special circumstances, fiscal incentives to improve the profitability of such investments. The second element is improvements in infrastructure that will increase the transport and other links of secondary cities and towns with rural areas and with larger markets. These investments should be complemented by basic market infrastructure in these urban areas. Wholesale markets that feature public-private ownership and management arrangements are a key aspect of this type of investment. Other investments that promote the growth of such areas include targeted infrastructural investment in energy, water, sanitation and health. Since young people consistently have the highest intentions to migrate (even if they often do not have the resources to do so), using these methods for bringing these urban centres closer to rural areas and improving the quality of life in urban areas could facilitate productive migration by some young people. Overall, this approach should increase the availability of wage labour opportunities for rural youth.

The second priority for rural youth inclusion in transforming AFSs is **equipping rural youth with the skills and resources needed to flourish as off-farm entrepreneurs** in the rural-urban interface. Farming will remain extremely important as a livelihood for rural youth in the least transformed countries. Yet even there, work off the farm is expected to provide more jobs than on the farm over the next 20 years (Tschirley et. al., 2015). In more transformed countries, the balance of new job creation will be tilted even more towards off-farm employment.

Though wage employment will rise as appropriate policies and investments come on stream, self-employment will remain an important option for millions of young people for many years. Because technical skill requirements are not generally high at this stage, improving rural young people's cognitive and non-cognitive skills in order to enhance their ability to engage more fully in the society and the economy may be the key priority (Fox, 2018). With the rapid growth in mobile credit, with all its advantages (very low-cost and rapid access to needed credit) and perils (the risk of over-borrowing or of using borrowed funds for consumption rather than business activities) (see chapter 8), youth programmes to promote financial business literacy could be called for.

A third area of emphasis should be **policies and programmes to facilitate entrepreneurial farming among rural youth.** AFS transformation is making farming more competitive, even in some of the least transformed countries (which have nonetheless seen a great deal of transformation over the past two decades). Many young people are well placed to bring the new attitudes to farming that are required to flourish in today's environment. Programmes designed to boost agricultural productivity need to be paired with actions that will provide greater market access to young entrepreneurial farmers. Where fiscal resources permit, this could include youth-focused microfinance and savings groups targeting high-value crops; learning groups for emerging mobile apps providing market intelligence and information on access to agricultural services;

and programmes to promote access to land, including the option of renting land, for young entrepreneurial farmers. Policies that promote land tenure security to give owners an incentive to engage in multi-year lease arrangements could also be very helpful for young people who have not yet inherited land and do not have the capital to purchase it. Programmes to help youth re-enter the farm sector after having been outside a rural area can be appropriate in some countries, as in Zambia, for example, where people move between urban and rural livelihoods depending on the performance of the copper sector, and Bolivia, where, as in the Andean region in general, circular migration is relatively common.

Finally, **new-generation nutrition problems require attention** throughout the developing world. This is a youth issue because this generation of young people is the first in most developing countries to face this problem and because food companies target adolescents in an effort to influence what they think of as desirable foods and to channel their tastes in the direction of the companies' most profitable food products. Also, since connectivity increases with rural transformation, more and more rural youth will be affected by the diet transformations that is at the root of the problem. Hence the importance of addressing this situation now.

BOX 6.1 Child labour

The number of child labourers in agriculture worldwide increased from 98 million in 2012 to 108 million in 2018. After more than a decade of continuous decline, prolonged conflicts and climate-related natural disasters, followed by forced migration, have pushed hundreds of thousands of more children into child labour (FAO 2018). Hazardous work is increasing particularly among adolescents aged 15-17, and half of all child labourers are engaged in hazardous work (ILO, 2012).

Child labour perpetuates a cycle of poverty for the children involved, their families and the community as a whole. It is detrimental to children's education and their acquisition of the higher-level skills that are needed to succeed in an increasingly demanding labour market and to drive rural transformation (FAO, 2015). Without such capacities and without further transformation, the agricultural productivity and performance of rural economies is likely to remain low, perpetuating poverty and food insecurity as well as the prevalence of child labour in rural areas. In addition, the presence of child labour exerts downward pressure on wages and working conditions in the labour market and thus decreases children's chances of obtaining decent employment at a later stage in life (FAO, 2013).

However, a distinction needs to be drawn between light duties that do no harm to a child and child labour, which is work that interferes with compulsory schooling, damages children's health and hinders their personal development. Especially in the context of family farming, some participation by children in non-hazardous activities can be positive, as it contributes to the intergenerational transfer of skills and to children's food security (ILO, 2019).

It has proved difficult to address the issue of child labour in agriculture, which often takes the form of unpaid family labour performed without formal contracts, is sometimes part of traditional practices and, when occurring in remote rural areas, cannot feasibly be supervised by national labour inspectors (FAO, 2013).

Agricultural interventions can have major impacts in terms of the prevention, reduction and elimination of child labour. Such interventions may also, however, lead to an increase in child labour by triggering an upswing in labour demand. Unfortunately, child labour considerations are seldom mainstreamed in agricultural policies and programmes targeting rural youth. However, a sound, long-term strategy for improving rural youth outcomes and expanding young people's opportunity space needs to take account of the fact that child labour reduction and youth employment promotion are policy areas that go hand in hand. Promoting decent employment for rural youth can help to prevent the use of child labour in agriculture, while reducing child labour can make it possible for children to get an education and develop the necessary skills to obtain decent forms of employment (FAO, 2013).

Emphases will differ depending on the stage of the AFS transformation process that has been reached. In many of the least transformed countries, undernutrition remains a major issue, especially in rural areas. Sustained and focused attention should be devoted to tackling this problem, especially with regard to under-5 stunting and maternal anemia. The knowledge base regarding what works in combating these problems is relatively robust, and good progress has been made on these issues over the past decade, with the incidence of undernutrition declining in terms of both prevalence and severity in most cases. In the meantime, the incidence of overweight and obesity is rapidly increasing. This is especially true in urban areas, but the problem is not confined to the cities. Unfortunately, very little evidence exists about what programmes are effective in combating this problem during its early stages (Kline et al., 2017; Popkin and Hawkes, 2017). Countries where this is a problem can draw useful lessons from the flourishing experimentation taking place in Latin America (Popkin, 2017) and adapt those approaches to their own realities. Improved public marketplaces that feature much more active public-private collaboration and favour the placement of healthy foods need to be part of the solution.

In more transformed countries, undernutrition is largely limited to pockets of persistent poverty (see chapter 2), and the overwhelming nutrition problem is overweight and obesity. Here, aggressive front-of-package labelling regulations and social marketing of healthy foods are being rolled out, and the effects of these strategies are being studied. These efforts need to be continued and stepped up.

SPOTLIGHT Youth entrepreneurship

Given the large numbers of rural youth who will be entering the labour market in the coming years, one of the main questions is what kinds of opportunities will exist for them and whether those opportunities will help young people to become productive and empowered agents in rural societies. Aside from farm work and wage employment, self-employment or entrepreneurship are often portrayed as promising pathways for young people (UNCTAD, 2014). The main issue here is that entrepreneurship is often confused with own-account work. Young people may be self-employed, but in most cases this means that they are in low-capital, casual activities such as street vending. In contrast, entrepreneurship is associated with capital investments, productivity growth and job creation.

But even though entrepreneurship is often depicted as a gateway to youth employment, young people are generally less likely to run their own businesses. Data from 12 countries in LAC, Asia and SSA suggest that rural youth below the age of 25 spend a significantly smaller share of their time on self-employment activities than adults do. A number of studies dealing with samples of SSA countries support this finding, as they indicate that people under 25 years of age are the least likely to be the owners of household enterprises (see, among others, Fox and Sohensen, 2012, and Nagler and Naudé, 2014). Also, Mabiso and Benfica (2018) find evidence that, throughout most of the world, including developing countries in Africa and elsewhere, the mean and median ages of entrepreneurs are

TABLE 6.1: Mean and median ages of entrepreneurs in selected countries (2010)

Country	Mean age	Median age	Standard Deviation (age)	Max. age	Min. age
Angola	30.4	27	11.2	84	15
Australia	44.2	43	17.2	89	18
Bolivia (Plurinational State of)	34.7	32	12.5	64	18
Brazil	37.0	35	13.3	64	18
China	39.1	39	12.0	64	18
Denmark	38.0	36	11.9	64	18
Egypt	38.6	37	13.4	64	18
Germany	42.7	44	12.7	64	18
Ghana	35.2	33	11.3	65	15
Jamaica	38.2	37	12.3	64	18
Japan	46.4	46	13.2	90	18
Netherlands	54.2	55	18.4	96	18
Pakistan	34.1	32	11.8	64	18
Tunisia	36.6	35	12.6	64	18
Turkey	38.0	37	12.8	64	18
Uganda	33.0	30	11.3	64	18
United Kingdom	49.6	50	16.5	80	16
United States	52.1	52	17.9	95	18
Zambia	32.2	30	11.5	87	15

Source: Kelley, Bosma and Amorós, 2010.

above 24 years. In most developed countries, the means and medians are well above 30 years and 40 years, respectively (see **TABLE 6.1**).

Furthermore, studies suggest that rural non-farm enterprises owned by young people often suffer from low labour productivity and a low growth potential in terms of job creation, especially when compared to adult-run enterprises (Nagler and Naudé, 2014; Kew, 2013). The most successful and established businesses that actually create jobs for youth are run by adults (Mabiso and Benfica, 2018). In part, this is because of the experience and assets that older adults will have amassed over time, which make them more shrewd and apt business operators (Mabiso and Benfica, 2018). In addition, the job creation potential of businesses is related to their growth orientation, which, in turn, largely depends on whether entrepreneurs are "necessity-driven" or "opportunity-driven" (Kew, 2013). While entrepreneurship can be perceived as a profit-making opportunity, it may also be an option of last resort as people seek to diversify and smooth out their income streams and obtain some sort of self-insurance in the face of a lack of alternative income-generation opportunities (Nagler and Naudé, 2014). This latter form of necessity-driven entrepreneurship is far more common among young rural people, especially those under the age of 20 (Mastercard Foundation, 2017). As a result, their businesses are usually temporary and less capital-intensive (meaning they can be started and stopped relatively easily), which limits their potential to grow (Mastercard Foundation, 2017). The analysis presented in chapter 2 supports this notion, as it indicates that the importance of AFS enterprise work for rural youth is greatest in the areas with the lowest growth potential in countries with the lowest transformation levels. The fact that these young people are engaging in AFS enterprise work in isolated areas that lack marketing opportunities and connectivity suggests that this is a necessity-driven business choice.

Youth-specific constraints further limit the potential for successful business operations and enterprise development. Young people tend to lack the experience, expertise and capital necessary to build complex businesses. As discussed in chapter 1, non-cognitive skills are a highly important factor in self-employment and microenterprise outcomes in developing countries, including rural areas. In fact, they are strongly linked to employment outcomes in general (Heckman and Kautz, 2013) and have a positive effect on the profits of household businesses and microenterprises (Campos et al., 2017). As a result of the lack of those skills and experience, a very high percentage of youth-owned enterprises fail during the first few months of operation (UNCTAD, 2014).

The lack of access to finance further prevents rural young people from investing in their enterprises, significantly limiting the growth potential of their businesses. In addition to the fact that they often have to travel long distances to reach financial service providers, young people are considered to be a higher risk by banks and informal lenders because they have accumulated less human capital and less physical capital to serve as collateral. These factors reduce their access to credit (Begg, Fischer and Dornbusch, 2000). In addition, poor connectivity – be it the lack of access to roads and markets, an inadequate and unreliable supply of electricity or a scant supply of social capital – further hinders participation in trade and the scaling up of rural enterprise productivity. These kinds of constraints are even greater for rural young women in many contexts, making entrepreneurship an even less viable option for them (see chapter 3).

Promoting youth entrepreneurship as such can therefore hardly be regarded as a panacea for youth unemployment; a thorough assessment of the setting in each case is a prerequisite for effective investment decisions. Also, policies that aim to support youth entrepreneurship need to be designed in such a way as to ensure that a comprehensive and holistic approach will be pursued in order to lower the financial, educational and regulatory barriers for young people hoping to set up a business. Long-term entrepreneurship programmes that combine interventions focusing on such areas as training, financial inclusion and market access have been found to be particularly effective in helping young small-scale entrepreneurs to succeed (Allen et al., 2016; World Bank and IFAD, 2017). Young entrepreneurs face a steep learning curve in starting up their businesses, and it will take several years for most of them to grow their businesses to a point where they can offer stable, well-paid jobs to others (Allen et al., 2016). Private sector engagement and ongoing mentoring during this period appear to be especially effective in supporting business growth. In addition, several studies have found that providing a longer-term "safe" and supporting incubator environment where young people can learn and practice essential technical and business skills as they are mentored has been an effective means of increasing both employment and earnings (World Bank and IFAD, 2017). Unfortunately, few of these kinds of interventions have been designed for rural youth so far.

To improve young people's connectivity and the productivity of their enterprises, investments in rural infrastructure are urgently needed. Only then can necessity-driven enterprises be turned into profitable ventures that can realize their full growth potential. In particular, access to ICTs and improved Internet coverage increase the opportunities for young people in farming, agribusinesses and service-related enterprises such as financial services (World Bank and IFAD, 2017).

Improving the cognitive and non-cognitive skills of rural youth is a necessary condition for entrepreneurship – and poses the greatest challenge in the least-connected areas. Technical and vocational training and business training in the development of negotiating and financial skills appear to be particularly important in order to help young small-scale entrepreneurs to set up their businesses, improve their performance, gain access to finance and increase their business productivity (World Bank Group, 2018). Embedding entrepreneurship curricula and financial literacy in schools and technical and vocational education and training institutions has been found to be an effective way of fostering an entrepreneurial culture (ILO, 2016; Kew, 2013). Also, formal education increases the likelihood that young people will engage in formal, rural non-farm enterprises (Dary and Kuunibe, 2012) and can increase labour productivity in non-farm enterprises and employment potential (Wennberg and Lindqvist 2010; Owoo and Naudé, 2014). However**, since skills can be translated into formal entrepreneurial activity only in a conducive environment, regulatory business constraints need to be tackled at the same time.** Concerted efforts to reduce administrative burdens are thus imperative (UNCTAD, 2014).

However, while there may be merit in encouraging young people to start businesses, especially if they are provided with the necessary support and assets, it is perhaps more prudent to focus on finding ways of allowing them to gain experience even if they are not running their own enterprises. The available evidence fails to answer the question as to whether advocating for a large number of young people to start their own businesses is expecting too much of them and would expose them to too high a risk of business failure (Mabiso and Benfica, 2018). Where youth are employed in businesses, it is usually as contributing family workers. They may be learning on the job, or they may just be working in this sector while looking for a better opportunity elsewhere (Fox and Sohensen, 2012). Prioritizing investments in productive rural businesses in order to generate wage employment for rural youth and equipping young people with the skill sets that are now in demand may be a more appropriate and effective way of opening up opportunities for them. **A careful assessment of the setting in each case is thus a prerequisite for effective investment decisions.**

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Climate change is a youth issue

Chapter 7

Climate change is one of the major dynamics of change affecting rural youth livelihoods. It is having significant effects on the countries in which the rural youth population is concentrated and on the sectors in which they will be looking for employment opportunities. The climate shocks underlying these effects are expected to become more frequent and intense unless measures are taken to incorporate climate change adaptation and mitigation into broad development policies and investments. At the same time, investments targeting rural youth need to incorporate a long-run climate lens approach for two simple reasons: today's youth will bear the brunt of a failure to adapt to climate change in the future; and the sustainability of any investment in the creation of youth opportunities will be determined by how the effects of climate change unfold (as well as myriad other uncertainties in the economic and policy environments).

Climate change is a youth issue because most countries in which the youth population accounts for a sizeable share of the total population also depend heavily on agriculture – a sector that is highly exposed to climate change. Although climate change affects everybody, certain sectors and parts of the population are more exposed to the livelihood risks that it poses. Investments in the agricultural sector in these countries need to ensure that adaptive technologies are developed and are accessible and that young people have the capacity to use these technologies as part of an inclusive and sustainable rural transformation process.

Though most existing narratives on climate change and development focus on the agricultural sector, investments in every sector need to be cognizant of the need for adaptation to climate change. The Intergovernmental Panel on Climate Change (IPCC) lists infrastructure, water management systems and agriculture as the main sectors that will be impacted and in which investments are needed (IPCC, 2014a). Many adaptive agricultural technologies exist, but adoption rates need to be improved to ensure that the agricultural sector can stay productive and absorb increasing numbers of rural youth in the labour market as the rural transformation process proceeds. As discussed in chapter 2, connectivity is one of the main challenges in the creation of rural youth opportunities; hence the importance of climate-resilient investments that will improve rural youth connectivity on a sustainable basis.

Vulnerability literature identifies exposure, sensitivity and adaptive capacity as the main components of vulnerability to climate change (Füssel, 2017; Füssel and Klein, 2006; IPCC, 2014a). **Rural youth are likely to be worse off than the rest of the population in terms of all components of vulnerability to climate change.** Countries with large youth populations depend heavily on agriculture and are projected to suffer significantly from extreme heat stress; this will disproportionately increase the *exposure* of rural youth who have limited options beyond agriculture. Rural youth are also likely to be more *sensitive* to climate shocks because of their lack or shortage of social capital and skills and their lower level of community participation (Brooks, 2003; Adger, 2003). Finally, the extent of *adaptive capacity* depends on access to resources such as land, credit

and insurance, from which young people tend to be excluded. This completes the circle of vulnerability (Gasparri and Muñoz, 2018; Yeboah et al., 2018).

Only by ensuring that young people develop the ability to process complex information, to adapt necessary technologies and to innovate can the rural transformation process be inclusive of rural youth on a sustainable basis and address their vulnerabilities. One of the effects of climate change on the information environment is to decrease the capacity of traditional information systems to effectively deal with change (Lipper et al., 2016). Climate change has made it necessary to process increasingly complex information in a timely manner in order to develop adaptation strategies, and this capacity can only be achieved by improved education systems that can more effectively foster the development of cognitive and non-cognitive skills of future generations (Muttarak and Lutz, 2014).

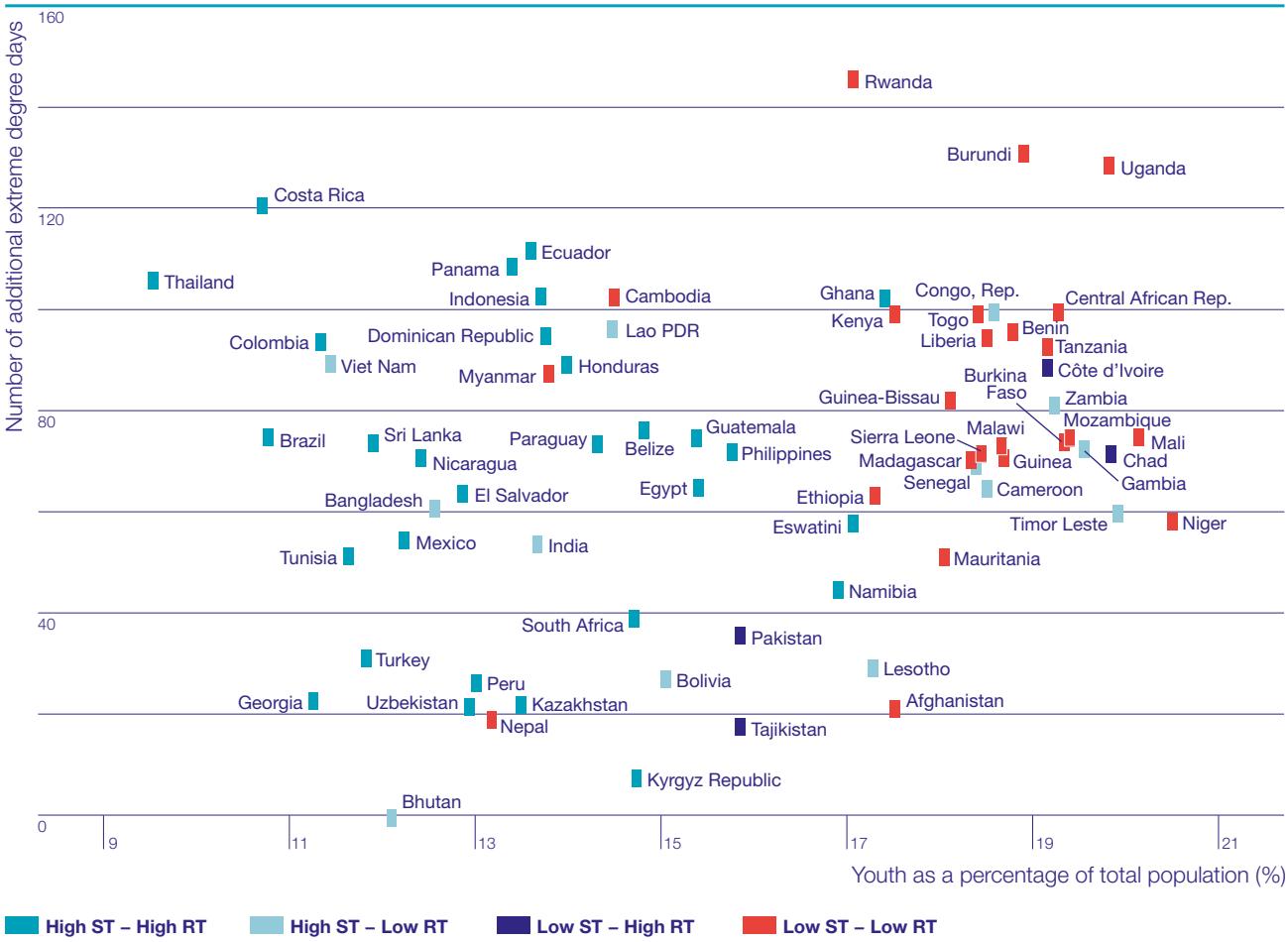
What makes climate change a youth issue?

No country with a large youth population share is expected to be able to avoid significant impacts of climate change by 2050. Climate change manifests itself in many ways, but its effects are primarily measured in terms of changes in the distribution of rainfall and temperature; while both of these parameters are critically important for agriculture, temperature projections are more stable across a large set of climate models (Christensen et al., 2007). **FIGURE 7.1** shows that the majority of countries in which young people make up more than 17 per cent of the population are projected to have more than 60 additional days with heat stress (number of extreme degree days) in 2050. Increasing heat stress affects crop and livestock productivity and there is a significant variation in its effects across agroecological systems and regions, with substantial negative impacts being expected in temperate and subtropical areas (Teixeira et al., 2013; IPCC, 2014b). Moreover, most of these countries are among those that have the lowest structural and rural transformation levels (indicated by the red dots in **FIGURE 7.1**), and are mainly in Africa. These countries have the least capacity to deal with climate change challenges, and their youth populations are growing because of their lagging demographic transition, as discussed in chapter 5. This is one of the main reasons why climate change is considered to be one of the main dynamics of change affecting rural youth opportunities and livelihoods.

The majority of the world's rural youth live in countries with medium to high projected levels of exposure to extreme heat stress and in rural opportunity spaces that have a strong agricultural potential but limited market access (see **FIGURE 7.2**). Most of the young people living in an opportunity space composed of mixed challenges and opportunities are found in countries with a medium projected level of exposure to extreme heat days, whereas those residing in opportunity spaces with a strong agricultural potential but limited market access are mainly living in high-exposure countries. Although APR hosts the largest number of young people who will be exposed to medium and high levels of heat stress (mainly in India and China), SSA is the only region in which a majority of young people are living in high-exposure countries. Most of these youth live in places that currently have a strong agricultural potential (with limited markets), but that potential is threatened by climate change, so adaptive action will have to be taken in the agricultural sector if they are to find employment there. This call for action is also relevant for medium-exposure countries, where a majority of young people face mixed challenges and opportunities.

FIGURE 7.1 Countries with large youth populations (and others) are projected to be exposed to an increased number of extreme heat days by 2050

The projected number of additional extreme degree days and youth as a percentage of total population



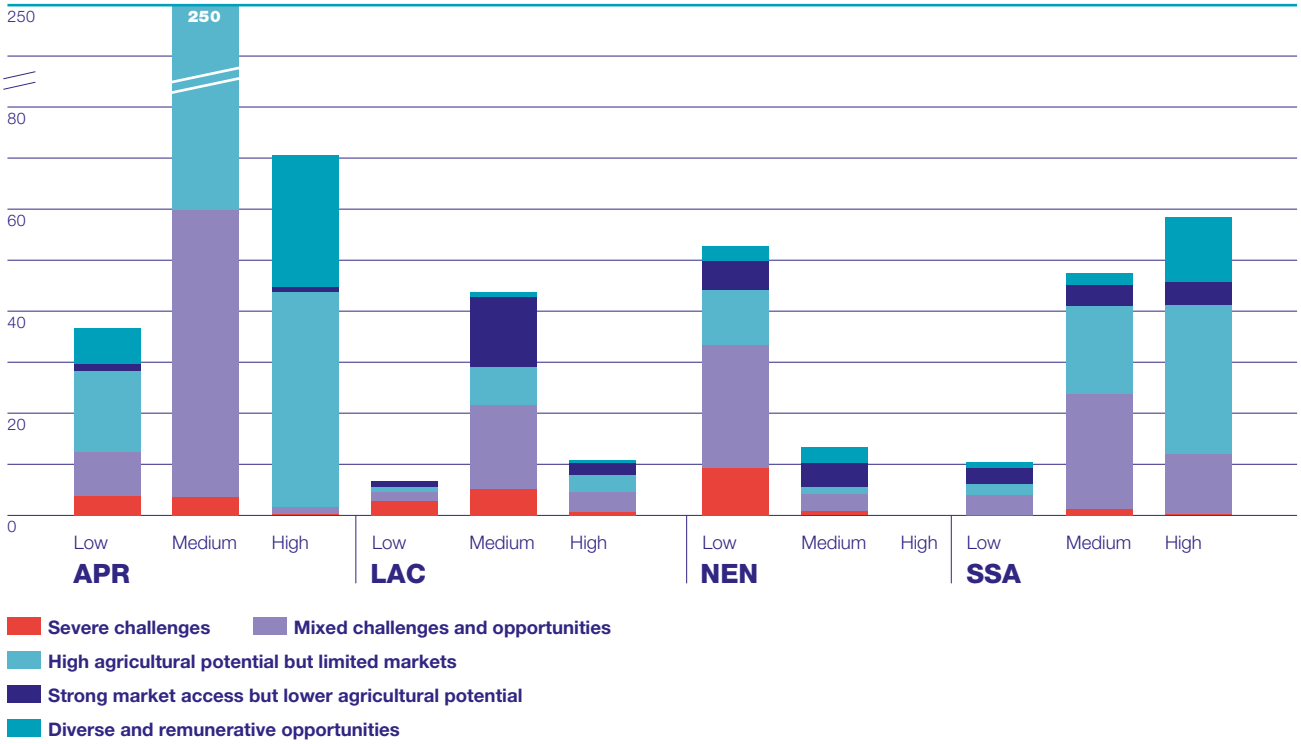
Notes: ST: structural transformation; RT: rural transformation.
Source: Adapted from Arndt et al. (2018).

Many of the countries with large youth populations and a high degree of vulnerability to heat stress are also highly dependent on agriculture. **FIGURE 7.3** shows that the relative size of the youth population and dependence on the agricultural sector are strongly correlated. A high degree of dependence on agriculture makes countries vulnerable to the direct and indirect effects of climate change, which are likely to be felt more intensely in rural areas where young people will be looking at an opportunity space dominated by the agrifood sector (AFS).

To make matters worse, the majority of countries with the largest shares of young people in their populations are also those that are least likely to have the capacity to deal with the implications of climate change. More than 20 per cent of the GDP in countries with low levels of structural and rural transformation (represented by red dots in **FIGURE 7.3**) comes from agriculture, which remains a low-productivity sector (i.e. low agricultural value added). Rural youth in these countries will struggle to find employment in the agricultural sector if investments in adaptation are inadequate.

FIGURE 7.2 The high agricultural potential existing in areas where a majority of global youth live today is threatened by extreme heat stress – especially in APR and SSA

Number of youth by rural opportunity space, region and projected exposure to extreme heat days (in millions)

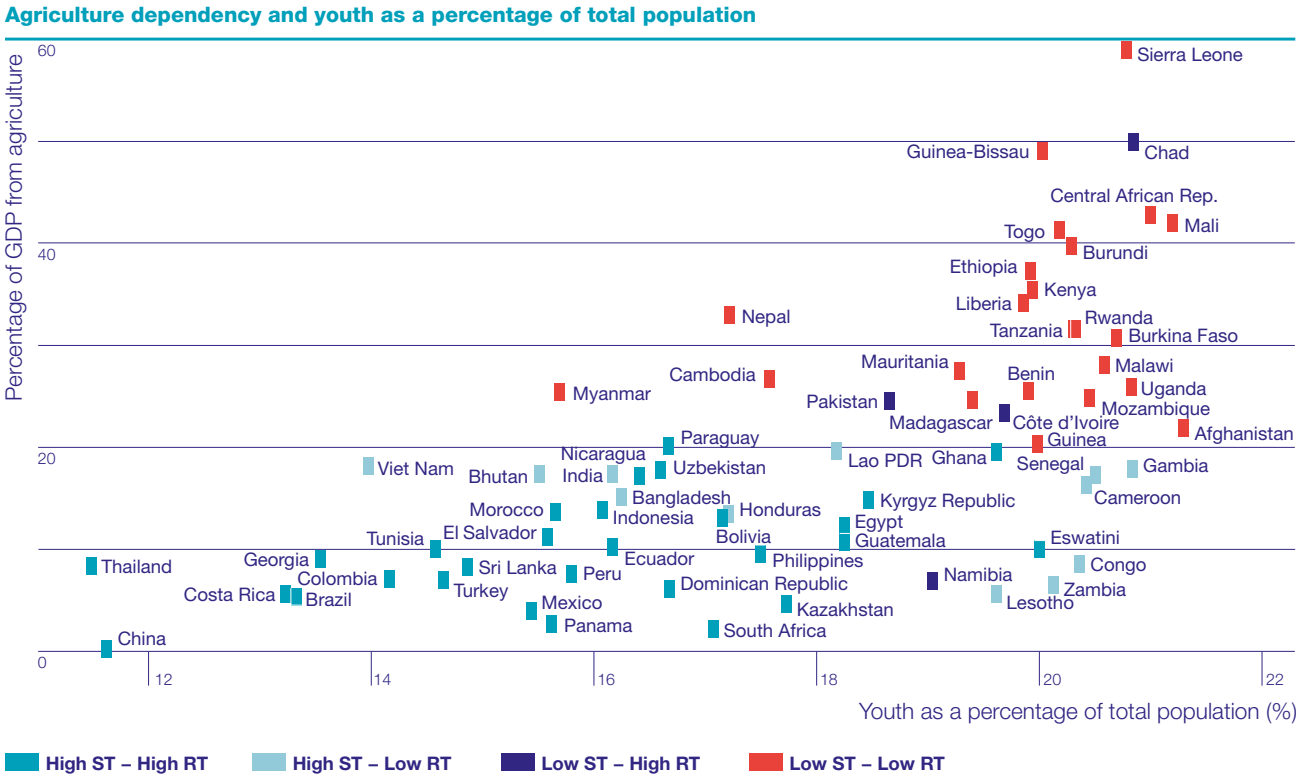


Notes: APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa. "Low", "medium" and "high" indicate projected levels of exposure to less than 40, between 40 and 80, and more than 80 days of extreme heat by 2050, respectively.
Source: Authors' own calculations using projections from Arndt et al. (2018) and spatial data on the rural opportunity space (see chapter 2).

Employment opportunities in other sectors are also limited, given the large share of GDP accounted for by agriculture and the fact that the structural transformation process is driven by productivity increases in the agricultural sector. As noted earlier, more than 50 per cent of rural youth in these countries live in opportunity spaces with a strong agricultural potential but with limited access to markets (see **FIGURE 2.5**). These countries need to invest in *agriculture-boosting* approaches to speed up their productivity growth (IFAD, 2016), with a specific focus on adaptation. Examples include youth-centred interventions to increase the adoption of stress-tolerant varieties (by improving access to finance, information and other inputs) and to improve irrigation infrastructure and water use efficiency.

Countries that have low levels of structural transformation and high levels of rural transformation also tend to have large proportions of young people in their populations (represented by yellow dots in the figure). Their agricultural sectors' productivity is higher by definition, and they can therefore focus more on *sustaining* their productivity through investments in the adaptation of all sectors to climate change shocks. Given the need to increase the share of GDP contributed by the non-farm sector in these economies, such interventions would include investments in green infrastructure, improved energy efficiency in the non-farm sector and risk management.

FIGURE 7.3 Countries with the highest proportions of young people also depend heavily on agriculture and have the least capacity for coping with climate change



Notes: ST: structural transformation; RT: rural transformation.
Source: Adapted from Arndt et al. 2018. ST: Structural Transformation; RT: Rural Transformation

How does climate change affect rural youth opportunities?

Climate change alters rural youth employment opportunities in all sectors – not just in agriculture. Some sectors are affected by climate change more directly, while others are affected indirectly through general equilibrium effects. Agriculture and other activities that draw on natural resources, such as livestock, forestry and fisheries, are among the sectors most directly affected by climate change. Climate change is projected to lower the productivity of major crops as compared to a baseline scenario without climate change in all regions, and this effect will cause prices to increase and will, to varying degrees (and with varying degrees of uncertainty), trigger more intensive management practices, area expansion, changes in international trade and reduced consumption across regions (Nelson et al., 2014; IPCC, 2014a, p. 632). The projected impacts of climate change include decreased livestock productivity due to heat stress and changing distributions of pests and diseases; a redistribution of the potential catch of marine fisheries away from tropical countries, which poses the risk of reduced production, income, employment and, hence, food security; and a loss of forest cover, which will both contribute to further climate change and threaten the livelihoods of communities dependent on forest resources (IPCC, 2014a).

In addition to affecting natural-resource-dependent sectors, climate change also has an impact on roads and other infrastructure which increases the exposure

of young people living in less connected areas to the ramifications of these kinds of changes. Both on-farm activities and the off-farm portions (e.g. processing, packaging and transportation) of the AFS, as well as non-AFS sectors, are vulnerable to the impacts of climate change on roads, water management systems and infrastructure. Given that both on-farm and off-farm activities are expected to become increasingly important sources of youth employment, the effects of climate change are likely to undermine the productivity and connectivity of rural youth (IPCC, 2014b).

Economy-wide effects magnify the implications of climate shocks for job creation, poverty reduction and structural transformation. The above summarized impacts will lead to increases in real food prices that will negatively affect real consumption, especially in poor net-buyer households. High food prices also increase wages that are closely tied to the cost of food in poor countries and decrease the demand for labour in labour-intensive non-agricultural sectors. Especially in countries with low levels of structural transformation, climate change is likely to lead to slower growth, shifts in trade balances and exchange rates, and reduced competitiveness for tradable goods and services. The combination of these effects will lead to slow job creation overall and will hamper the creation of employment opportunities for rural youth (Arndt et al., 2018).

The impacts of climate change are likely to be distributed unevenly across the rural-urban gradient. Major impacts of climate change in rural areas will be felt through changes in the water supply, food security and agriculture. The human costs in rural areas will be high because of rural residents' heavy dependence for their livelihoods on natural resources, high rural poverty rates, the low connectivity of rural areas and policy failures that prioritize urban demands (over rural ones) under extreme events (IPCC, 2014a). The livelihood impacts on rural youth will also depend on their rural opportunity space. Young people living in opportunity spaces marked by severe challenges will bear the brunt of the combined effects on their productivity and connectivity, while those in diverse opportunity spaces will have more options for coping with the impacts but will nonetheless need support in order to navigate the new and complex uncertainties that they will face.

Country-specific detailed analyses are needed in order to gain an understanding of the spatial distribution of impacts and to identify adaptive investments that will be relevant for youth. For example, Arndt and Thurlow (2015) identify four impact channels through which climate change affects the economy of Mozambique: agriculture, roads, hydropower and cyclonic sea level surges. Although the impacts may be modest in the aggregate, rural areas will bear the brunt of the downturn in agricultural yields and the deterioration of the road system, while urban areas will be more affected by the reduction in hydropower and storm surges in coastal cities. Similarly, Cullis et al. (2015) model the impacts of climate change on various sectors in South Africa and show that impacts are highly variable at the subnational level, especially in agriculture. Given how strongly the rural opportunity space influences youth livelihoods (see chapter 2), understanding how the different spaces they live in and sectors that can employ them will be affected is critical for sustainable youth inclusion.

Youth-specific constraints – especially on access to land – may be exacerbated by climate change. Land values are expected to change in response to climate-related factors in varying ways. In some cases, increasing competition for productive land may drive up agricultural land values (Smith et al., 2010), making it even harder for rural youth to access land (Arndt et al., 2018). In the absence of an agricultural sector that has adapted well to the impacts of climate change, however, agricultural land values may decline along

with productivity and employment opportunities in the sector (Mendelsohn et al., 2007; Mendelsohn, Christensen and Arellano-Gonzalez, 2010). The constraints that already exist in terms of rural young people's access to land need to be addressed by improving land rental markets and inheritance policies in order to minimize the impacts of climate change on young people's productive engagement in the economy.

Adaptation to climate change is essential to ensure sustainable livelihood opportunities for rural youth

Agricultural sectors that are well prepared to meet the challenges of a changed agroecology can partially offset losses elsewhere in the economy. Countries with ample agricultural resources and labour that invest enough in agriculture to capture growing markets can benefit from the higher prices associated with climate change and can partially offset negative impacts in other sectors (Arndt et al., 2018). If countries with large youth populations fail to do so, however, productivity growth would fall behind rates observed recently and yield losses would be greater, thereby reducing agricultural revenues.

Agricultural sectors that have adapted to climate change can absorb increasing numbers of young people even while the importance of agriculture in the economy decreases as the structural transformation process proceeds. Though this may seem counterintuitive, evidence suggests that it is possible if certain conditions are met, especially in countries that are going through the structural transformation process and the demographic transition at the same time. Ahsan and Mitra (2016) argue that a labour-absorbing transformation was accomplished in Gujarat through investments in infrastructure, agricultural science and education, and water management and policy changes that improved access to land and markets. In India as a whole, the agricultural labour force expanded until 2005, even as the sector's share of the total labour force was decreasing, after which both numbers declined.

In Africa, although agriculture's share of the labour force in most countries is falling at varying rates, the absolute numbers of people employed and labour productivity in the sector have risen (IFAD, 2016, p. 139). The increase in labour productivity, however, has been sluggish compared to productivity gains in LAC and APR due in part to the slow adoption of improved agricultural technologies. Using panel data from six SSA countries, Yeboah and Jayne (2018) find that the numbers of people employed and the total amount of time that they work in agriculture are rising, although most of this increase comes from the off-farm portions of the AFS. These findings, taken together, underline the importance of adaptation in both on-farm and off-farm sectors for the creation of rural youth opportunities.

Adaptive investments in all sectors can also reduce the climate-related push factors of migration. Climate change and environmental factors are known to affect overall migration patterns in myriad ways (Martin and Herzberg, 2014; FAO, 2018). The World Bank recently projected that the slow-onset impacts of climate change (through warming and drought, rising sea levels, the increasing intensity and frequency of natural disasters and competition over natural resources) could act as push factors of internal migration for over 143 million people in SSA, South Asia, and Latin America by 2050 (Rigaud et al., 2018). Recent youth-specific evidence on these linkages shows that youth are more likely to migrate in response to droughts and hurricanes in LAC (Baez et al., 2017). Rural youth in SSA migrate to urban areas at higher rates in countries with larger

reductions in rainfall and increases in temperature (Weinreb, Stecklov and Arslan, 2018). Lack of access to natural resources, primarily land, has also been documented to increase incentives for rural youth migration (Headey and Jayne, 2014; Kosec et al., 2016). Climate change is likely to exacerbate this constraint, as discussed above, thereby adding to the urgency of incorporating a rural youth lens into climate change adaptation and land reform policies.

Increased adoption of adaptive agricultural technologies combined with increased investment in R&D has the potential to decrease the negative effects of climate change on agriculture. New research shows that existing heat- and drought-tolerant agricultural technologies have the potential to counteract the decline in yields associated with climate change for some of the main staple crops (Robinson et. al., 2015; Islam et. al 2016). The applicability of these technologies is limited to a small number of crops and threats, however, and their adoption levels remain lower than the model assumptions. Consequently, they are unlikely to be sufficient to build resilient rural livelihoods for large numbers of rural youth. Increased investment in adaptive agricultural research for a wide variety of crops and farming systems, combined with the youth-inclusive promotion of existing proven technologies, is needed to address this challenge.

Most adaptive agricultural technologies have improved water management at their heart, as they are directed at trying to address the challenges caused by altered and heightened variability in rainfall patterns combined with the increased evapotranspiration associated with higher temperatures. These technologies include innovations and practices in integrated soil fertility management to improve water retention capacity and drainage; water harvesting in landscapes and complementary irrigation systems with high water-use efficiency; improved groundwater management; adjustments in crop varieties and in planting and harvest times; and innovations in cultivation systems to improve water use efficiency (FAO, 2017). Livelihood diversification is also an integral part of adaptation in the light of increasing uncertainty regarding climate change impacts. By making agricultural production more resilient, such technologies are expected to create more stable employment opportunities in both the on- and off-farm portions of the AFS and are especially relevant for rural youth in countries that will be going through structural and rural transformations while their youth populations continue to expand.

Some technologies that are focused on climate change adaptation also have mitigation co-benefits that can be harnessed as part of a climate-resilient rural transformation process. These technologies include improved soil and fertilizer management to reduce resource-use intensity, improved livestock diet and supply chain management, and reduced resource-use intensity in aquaculture and fisheries (FAO, 2016, ch. 4). Investments in renewable energy sources to power the rural transformation process have the potential to provide leap-frogging opportunities in some areas that can also provide youth employment (EDC, 2002).

As discussed above, most impacts of climate change are highly localized. Site-specific responses are consequently required for both adaptation and mitigation, a fact which negates the possibility of one-size-fits-all solutions. Therefore, more investment in agricultural R&D is essential in order to develop localized adaptation options that can be widely promoted and adopted. **Most countries underinvest in agricultural R&D, however, and countries with large youth populations are no different**. Current investments in agricultural R&D fall short of what is needed to drive a dynamic AFS that can create sustainable employment opportunities (Arndt et al., 2018).

A programmatic approach to climate change adaptation is needed that goes beyond agriculture to ensure productivity, connectivity and agency for rural youth

Programmatic approaches, by definition, cut across sectors and require both overall adaptation interventions to ensure that rural development is sustainable and youth-centred measures to ensure their active inclusion.

A comprehensive investment package is needed to address general challenges posed by climate change. Rosegrant et al. (2017), in collaboration with the 15 research centres belonging to the Consortium of International Agricultural Research Centers (CGIAR), have examined four alternative scenarios for investment in agricultural research, water management and marketing infrastructure as part of a strategy for addressing climate change. The most comprehensive investment scenario that combines elements from all three of these areas delivers the highest gains in agricultural supply, economic growth, welfare and environmental indicators. Infrastructure investments bring benefits in the shorter term (by 2030) but make up the most expensive component, whereas investments in irrigation and water-use management, improved soil management and agricultural research deliver benefits over a longer time period (by 2050) and are relatively less costly. Countries need to balance politically more appealing adaptation investments that are more visible in the short term with those that take a longer time to pay off but are essential for adapting the whole economy in order to create opportunities for today's and tomorrow's rural youth.

Given the wide variation of impacts within countries, there is an acute need for localized adaptive innovation in countries where agriculture will have to absorb very large cohorts of rural youth. In order to gain an understanding of how to invest in locally relevant adaptive agriculture, projections that combine multiple dynamics of change are needed. Models for projecting localized impacts of climate change in the agricultural sector are particularly complicated because they have to be based on a combination of climate, agroecological and human-environment interactions. Adaptive innovation in this sector, therefore, is more critical than in other sectors, such as infrastructure. This observation is not intended to minimize the significance of resilient infrastructure, which is becoming more important as agrifood systems increasingly employ rural youth; instead, it simply emphasizes the fact that large-scale campaigns to expand infrastructure and irrigation will have limited impacts on rural youth opportunities unless they are combined with investments in improved agricultural technology (Arndt et al., 2018).

Youth-centred adaptation actions are needed to address the constraints that are having the most acute effects on young people. Even the best programme of public investment in agricultural research and rural infrastructure will benefit rural youth only to the extent that they: (i) can access factors of production; (ii) are an integral part of the technology development and promotion effort; and (iii) have the necessary skills to guide complex decision-making in the new environment that is being framed by climate change.

The constraints that rural youth face in gaining access to land need to be addressed, especially in the countries that are more exposed to the impacts of climate change. By decreasing the productivity of land that is not adapted to the new climate realities and by increasing the competition for and the value of land that *is* adapted to climate shocks, climate change exacerbates the constraints on access to land faced by rural youth. Revising land inheritance rules in order to facilitate early access to land for rural

youth would enable young people who want to engage in agriculture to be able to do so, especially as the demographic transition decreases mortality rates further. Improving how land rental markets function is also essential, as they benefit marginalized groups more than mainstream groups by reducing existing inequalities in access to land (Deininger, Savastano and Xia, 2018). Recent evidence shows that young people participate more in rural land rental markets than other age groups, suggesting that investments to improve land rental markets would disproportionately benefit young people (Ricker-Gilbert and Chamberlin, 2018; Yeboah et al. 2018).

Access to land can facilitate productive employment in agriculture for rural youth only if the promotion of adaptive agricultural technologies is youth-centred. Many such technologies for crop production already exist (though mostly for cereals and a small number of other crops), but adoption levels remain low in general, which underlines the importance of the role of information in fostering adoption in a changing environment (Mullins et al., 2018). Systematic studies on barriers to the adoption of such technologies do not show a clear youth advantage or disadvantage, but do demonstrate that tenure security and access to information are major enablers of adoption (Arslan et al., 2018). Given that rural youth are at a disadvantage in terms of both of these dimensions, addressing these constraints is likely to increase the adoption of new technologies that are climate-resilient to some extent.

A lack of access to credit is also an important barrier to the adoption of new technologies and, as discussed in detail in chapter 8, young people are usually at a greater disadvantage in accessing credit given the life-cycle effect associated with the fact that they have not yet had time to accumulate enough assets to use as collateral. Although this issue is not related to climate change per se, it should be borne in mind that rural youth can benefit more from improved access to land and to information on adaptive technologies if they have the necessary financial resources (see chapter 8). A number of projects in IFAD's Adaptation for Smallholder Agriculture Programme (ASAP) set a good example of approaches for promoting youth-centred adaptation that involve methods for addressing cognitive and non-cognitive skill gaps, for disseminating climate-related information and for addressing finance constraints faced by rural youth (see **BOX 7.1**).

ICTs are increasingly being used in technology promotion and information dissemination efforts because they have the potential to reach rural youth more effectively than traditional systems. Investments in adaptive technologies in agriculture and other sectors traditionally do not have an explicit youth focus and do not put enough emphasis on the agroecological changes that are likely to occur as a result of climate change. Traditional extension programmes are generally not suited to the informational needs of young people, but alternative approaches that make use of social networks and ICT-based outreach efforts hold promise for increasing adoption rates (see chapter 8). While the first generation of ICT-based extension services relied on SMS messages and reminders, interactive voice response systems, purpose-built smartphone apps, picture-based pest and disease surveillance, other hardware and software solutions, and video-mediated extension support services are gaining momentum. Recent evaluations of such programmes show promising results in terms of technology adoption and productivity outcomes (Spielman, 2018). One such study, which dealt with a particularly innovative programme in Peru that integrated high school children into video-based extension services, found that the programme was effective in increasing the children's parents' knowledge of agricultural technologies and adoption rates (Nakasone and Torero, 2016). Such innovative approaches are needed not only in agricultural extension initiatives but

BOX 7.1 Youth-centred approaches to adaptation: Examples from IFAD's Adaptation for Smallholder Agriculture Programme (ASAP)

IFAD's Adaptation for Smallholder Agriculture Programme (ASAP) is the most extensive adaptation programme for smallholder farmers globally. The programme aims to improve the livelihoods of rural people by financing projects that focus on food security and nutrition, increasing rural incomes and strengthening climate change resilience. It places rural youth and women at the forefront of adaptation interventions to address their particular vulnerabilities.

ASAP investments are facilitating youth-inclusive rural transformation efforts focusing on increased agricultural productivity, enhanced entrepreneurial opportunities, improved infrastructure and diversified livelihoods. As climate change threatens the productivity of agriculture, programmes such as ASAP play a critical role in repositioning agriculture and making it a sector that can create sustainable economic opportunities for rural youth.

The programme has helped to improve the livelihoods of youth in rural areas by addressing some of the main challenges that they face. These include unemployment and underemployment, insufficient access to information and education, and a lack of access to productive assets. While these challenges are also faced by adult farmers, the evidence suggests that rural youth, and particularly young women in rural areas, will not benefit from overall rural development as much as adults or young males will (Bennell, 2007). ASAP-supported projects address these constraints by specifically targeting rural youth through interventions that focus on skills development in entrepreneurial activities, financial management and sustainable agricultural practices. They are also designed to leverage the adaptability and innovation-savvy nature of many young people (Makiwane and Kwizera, 2009) in order to augment the adoption of climate-resilient agricultural technologies and strengthen the cognitive skills of rural youth so that they will be in a better position to address climate risks in agricultural production and to innovate.

Vocational training, the provision of grants to support the establishment of small businesses that promote diversification, mechanization and financial literacy classes are some of the fundamental mechanisms used as incentives for the participation of rural youth in project activities. For example, an ASAP-supported project in Egypt is exploring opportunities for creating new employment opportunities for rural youth in such areas as the maintenance of drip irrigation systems or solar pumps and waste recycling. As part of this initiative, private sector suppliers of irrigation systems and solar panels will be invited to participate in the training of rural youth in new agricultural technologies. **TABLE 7.1** highlights examples of youth-centred adaptation interventions undertaken by ASAP-supported projects.

In order to be successful in promoting adaptation in agriculture, such initiatives need to be scaled up, and the possibility of doing so depends, to a critical extent, on the evidence that can be shown of the impact that such initiatives have. In order to assess the impact on rural youth, in general, and on young women, in particular, such programmes need to incorporate a set of age- and sex-disaggregated indicators into their monitoring and evaluation (M&E) systems. The consistency of M&E systems across youth-centred projects to date has been limited. This situation underlines the need to step up efforts to achieve the SDG targets that call for age- and sex-disaggregated documentation across all indicators. Incorporating such efforts into the design of future youth-centred projects will also contribute to the evidence base regarding what types of interventions improve rural youth opportunities in a sustainable way and how. This information is sorely needed in order to enhance investment and policy design.

also in other sectors where youth productivity and connectivity need to be improved in order to further an inclusive rural transformation process.

Investments in young people's development of cognitive and non-cognitive skills will equip them with the tools to understand and adapt to climate change and to innovate

Climate change is continuously altering the information environment because of the great uncertainties that exist in terms of our understanding of localized impacts and the required adaptation actions. Young people who lack certain basic skills will be hard pressed to process the information they will need in order to decide how best to react to climate change, which may include, for example, adjusting the range of activities undertaken on their farms, switching to new agronomic practices, seeking out alternative marketing channels and buying insurance or other instruments that will help them to manage the risks that they face. Educational reform in rural areas is a core element of adaptation to climate change, since the education system must ensure that youth have both the cognitive and non-cognitive skills needed to navigate today's complex information environment (Arndt et al., 2018).

TABLE 7.1 Examples of ASAP approach for promoting youth-centred adaptation

Adaptation intervention	Country	ASAP-supported project	Interventions
On- and off-farm livelihood strategies	Bhutan	Commercial Agriculture and Resilient Livelihoods Enhancement Programme (CARLEP)	Rural youth groups were supported in the intensification of dairy production through construction of dairy sheds, provision of fodder seedlings, chuff cutters and electric milling equipment.
	Egypt	Sustainable Agriculture Investments and Livelihoods Project (SAIL)	Two youth community development associations (CDAs) have been established. CDAs have received training in managerial skills of leadership, good governance, strategic planning and management of social infrastructure. 60 women received vocational training in sewing and carpet weaving.
	Nigeria	Climate Change Adaptation and Agribusiness Support Programme (CASP)	390 rural youth were selected to benefit from a five-day enterprise development training which provided business support with mentorship and coaching.
Skills to address climate risks in agricultural production	Gambia	National Agricultural Land and Water Management Development (NEMA-CHOSSO)	5,322 farmers including rural young people and women in the Gambia were trained on integrated pest management, the use of improved seeds and the implications of climate change. The programme is also running farmer field schools.[43]
Provision of financial services that enable climate risk management	Viet Nam	Adaptation to Climate Change in the Mekong Delta (AMD)	The project is providing financial resources and facilities to scale up adaptation investments to build resilience. The project has resulted in a women's support fund that has established 384 new women's savings and credit groups in Tra Vinh with 2,490 members. The fund has provided loans to 2,355 members.

Article 6 of the United Nations Framework Convention on Climate Change (UNFCCC) calls for action for climate empowerment in order to ensure that all countries develop and implement educational and public awareness programmes, train scientific, technical and managerial personnel, foster access to information and promote public participation in addressing climate change (UNESCO and UNFCCC, 2016). To achieve these goals, a number of countries have successfully prepared national climate change learning strategies, but they are the exceptions rather than the rule, and the strategies are mainly focused on formal education systems.

Recognizing the importance of developing youth-centred climate change policies to equip youth with the tools they need to understand and adapt to climate change, UNFCCC extended its constituency to include non-governmental youth organizations in 2009. This has allowed youth-led and youth-focused NGOs to actively shape intergovernmental climate change policies. Their representatives receive official information, participate in UNFCCC meetings, provide technical and policy inputs to negotiation groups and engage in intergenerational dialogue with decision makers through high-level briefings.

44 The Farmer Field School is a methodology developed by the Food and Agriculture Organization (FAO) to equip farmers with skills and the ability to analyse and observe the ecology of their fields. The schools provide a platform for experimentation with different agricultural management practices in a setting where farmers hold the decisive role in what could be considered as 'best practices.'

The United Nations Joint Framework Initiative on Children, Youth and Climate Change has been coordinating the efforts of 16 intergovernmental entities and numerous youth organizations. The overall objective of this cooperation is to enable young people from around the world to take action on climate change mitigation and adaptation at the local and national levels. The diverse range of initiatives includes educational, awareness-raising and behavioural-change campaigns. Young people are also engaged in climate change projects within the framework of different national and international organizations. These initiatives are more likely to reach urban youth than rural youth, however. The specific challenges that climate change poses to rural youth in terms of their productivity, connectivity and agency need to be taken into consideration so that they can be included in and contribute to adaptive rural transformation efforts.

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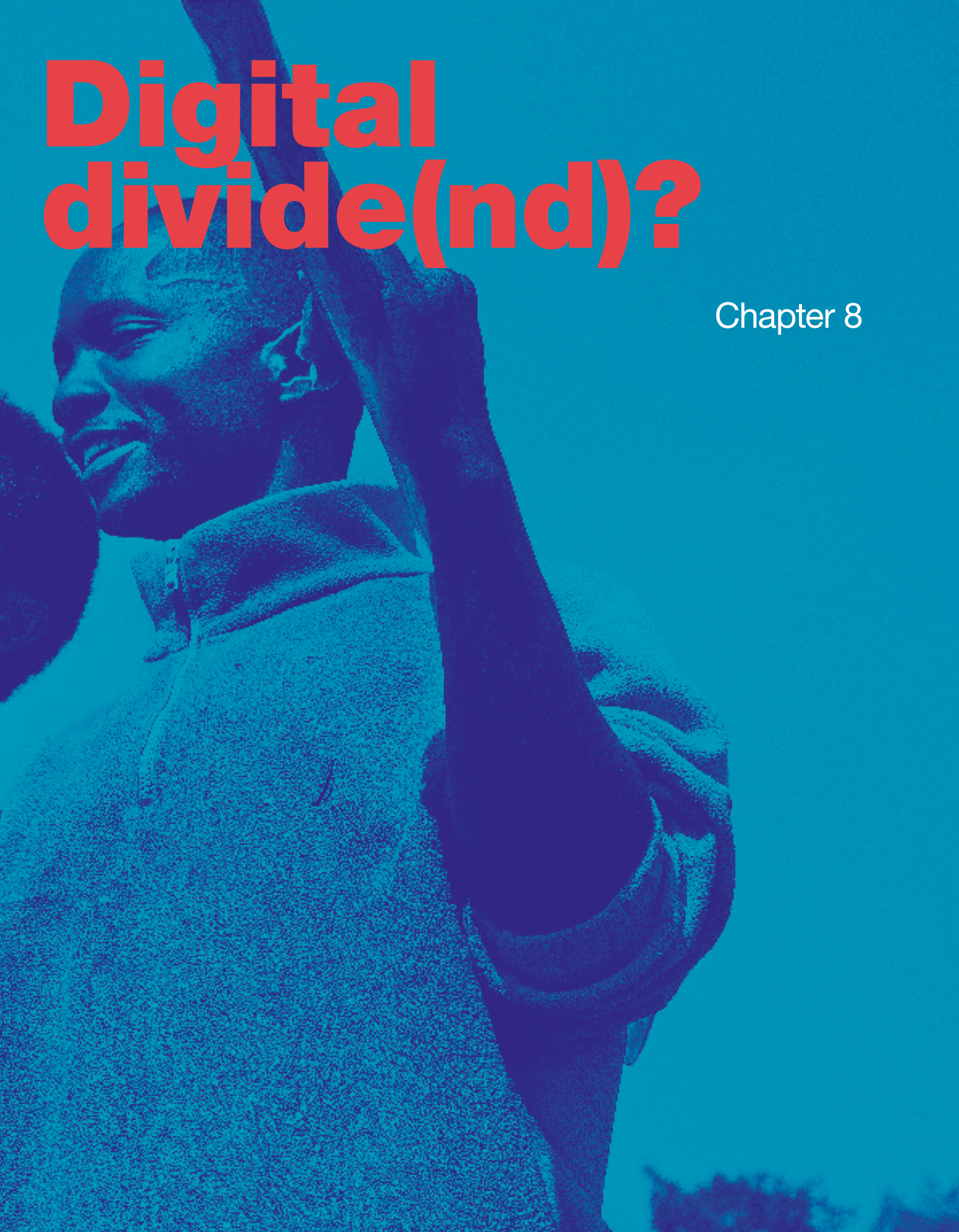
Digital divide(nd)?

Chapter 8



The digital revolution has been advancing with undreamed-of speed over the past several decades. Thirty years ago, the idea that a poor smallholder farmer in a remote area of Mozambique (or Niger, or Myanmar, or the Andean highlands) could be in regular (and, for the most part, affordable) touch with a son or daughter who had migrated to the capital city, or with traders in a market 40 kilometres away, would have seemed absurd. Today, this is a common occurrence that is repeated hundreds of millions of times each day. Yet this is only the narrow point of the spear, as digital technology has expanded in uncounted directions to allow people to make connections, seek and send information, make better-informed decisions, or simply see and be amazed by the ideas, possibilities, sights and sounds to be found in areas of the world that they had never imagined being able to lay eyes on before. Already dizzying in its implications, the digital revolution is set to take another giant leap forward as artificial intelligence embeds itself in countless apps linked to people and the Internet of Things (IoT).

Today's youth are the first group of young people in the developing world whose entire working lives will be permeated by digital technology. This process is further undermining the prospects for untransformed countries to transform and escape poverty through labour-intensive manufacturing, as previous generations did. At the same time, the penetration of digital technology into all aspects of today's economies and people's lives is opening up startling new opportunities for rural youth to vastly increase their connectivity, productivity and agency.[45]

Whether this revolution creates the kind of digital dividend that will transform and improve the lives of today's developing-country rural youth, or whether it instead creates a digital divide that exacerbates existing inequalities, will depend on policy and programmatic decisions that Governments can take today. This chapter summarizes the existing evidence on the challenges and opportunities that the digital revolution presents for youth employment and highlights the types of policies and investments that will be needed to turn it into a digital dividend for both the larger society and rural youth.

Digital technology is likely to accelerate the decline of labour-intensive manufacturing as a source of job growth in developing countries

This report has underscored the fact that the kinds and extent of opportunities open to young people are determined by the intersection of opportunities across young people's national, local and family settings. The sustained growth that is required to increase the opportunities for young people in rural areas has always depended on investment in a country's fundamental capabilities: expanded access to high-quality education as a means of building human capital; basic infrastructure for roads, energy, water and sanitation,

45 The social and psychological consequences of this revolution will be profound and are well beyond the scope of this chapter.

BOX 8.1 The Internet of Things for intelligent agriculture

The term "Internet of Things" (IoT) refers to a wireless sensor system that is intended to achieve the interoperability of various networks. In recent years, IoT has been making remarkable progress and is regarded as a promising technology, particularly in the agriculture sector (FAO and ITU, 2017). To reduce costs and enhance the efficiency of rural labour, sensors, electronic measurement algorithms and drones are being used to collect data on targeted inputs such as soil moisture and crop health. The collected data are stored on a server or in the cloud and can be easily accessed by farmers via the Internet with tablets and mobile phones to enable intelligent and remote wireless control over the agricultural production process (Lee, 2018). The tech industry has produced a number of promising apps in the field of intelligent agriculture in recent years – ranging from livestock applications to on-call vehicles. Unfortunately, evidence on uptake, input use and productivity is still scarce.

Aquaculture: South Asia can be considered a pioneer in intelligent solutions in aquaculture. Companies such as Eruvaka, JALA [https://jala.tech/id/beranda/#product] or eFishery [https://efishery.com/en/home/] offer data-analytics-supported aquaculture equipment that enables farmers to monitor their ponds through a smartphone and adjust the amount of fish feed based on water quality and weather data. These real-time monitoring mechanisms help farmers to increase their yields and reduce unnecessary input costs (Tinsley and Agapitova, 2018).

Precision agriculture: The Indian enterprise Flybird Farm Innovations [http://www.flybirdinnovations.com/aboutus.html#quality] aims to improve agricultural productivity and resource management by promoting precision irrigation and fertigation through a sensors-connected, automated controller. In 2013, it developed a smart irrigation system which is programmed to manage water and fertilizer inputs based on information on soil moisture, temperature and humidity gathered by sensors placed in the ground. Similar approaches have been taken by a number of African start-ups. AgriPrecise, with its app AgIQ, aims to assist farmers to apply the correct amount of fertilizer and has projects under way in Ethiopia, Zambia, Zimbabwe, Mozambique, Malawi and South Africa (IT News Africa, 2018). The Kenya-based UjuziKilimo enterprise has developed a soil analysis platform that measures soil characteristics using an electronic sensor in the ground. It alerts farmers and gives them guidance, via SMS, concerning real-time soil conditions (IT News Africa, 2017).

Illuminum Greenhouses, meanwhile, builds greenhouses equipped with solar-powered sensors to monitor and maintain optimal crop growth conditions. The company also supplies drip irrigation kits that deliver the precise quantity of water that a plant requires at any given time (CTA, 2018).

ThirdEye [http://www.thirdeyewater.com/#primary] is an initiative launched by FutureWater and HiView in 2014 with the support of United States Agency for International Development (USAID) as part of the Securing Water for Food (SWFF) programme. ThirdEye's low-cost flying sensors (drones) have cameras which can measure the reflection of near-infrared and visual light to give an indication of crop stress as a basis for farmers' management decisions regarding the use of resources such as water, seeds, fertilizer, pesticides and manpower. Since near-infrared light is not visible to the human eye, near-infrared sensors can provide information on the status of crops about 10 days before a person could detect anything (World Bank, 2017). By 2017, ThirdEye had already been adopted by 5,500 farmers in Kenya and Mozambique.

Livestock: Other IoT solutions focus on optimizing the livestock and dairy value chains. iCow, for instance, has developed a gestation calendar that helps cattle ranchers maximize breeding potential by tracking the fertility cycles of their animals. Farmers can register their cows by sending a text message to iCow, which sends them messages via their mobile phones that are tailored to their needs. These messages alert them, for example, regarding feeding schedules, when to expect their cows to be in heat or about disease outbreaks. The service also functions as a "Craigslist", of sorts, for farmers looking to connect with their peers to buy and sell cattle (Washington Post, 2013).

The Indian SmartMoo platform, developed by Stellapps [http://www.stellapps.com/index.php/farm-herd-management-system-smartfarms-2/] in 2010, targets small and medium-sized livestock producers in India. It is an end-to-end dairy farm services product with a focus on clean milk production protocols, productivity improvement, cost optimization and real-time data access. It is offering knowledge-based solutions to optimize the milk production process and keep a check on cattle health. Users can access data via sensors that are embedded in milking systems, animal wearables, milk chilling equipment and milk procurement peripherals. These data are also sent to a cloud server where the data are analysed before the analytics and outcomes are disseminated to various stakeholders over low-end and smart mobile devices.

The Internet of Tractors: Although manual labour provides employment, it is often more expensive for employers and requires more time than tractors. When available, tractors can work 40 times faster and be significantly less expensive than human labour (World Bank, 2018). Most farmers, however, cannot afford their own tractors, and most tractor service providers operate well below their potential. Hello Tractor developed a solution to address these problems in 2017. A farmer registered with Hello Tractor can simply send an SMS text to a booking agent who will locate and schedule a device-equipped tractor and send the tractor to the requested location to complete any task that the farmer may need done, such as ploughing, tilling or planting. The tractor operator will then help any nearby farms in need of assistance, making this "Uber for tractors" a very efficient service. A monitoring device on each tractor makes farmers aware of how much land has been worked and the speed of crop growth, and these records are then kept for use as a basis for future agricultural production decisions (Lawson, 2017).

and communications; and strong institutions that can appropriately regulate the economy while generating fiscal resources and using them well. Yet a basic fact is that the first industrializers and (to a lesser degree) the East Asian Tigers obtained an extra quantum of growth – beyond what could have been achieved by means of these basic investments alone – thanks to rapid structural changes in their economies. These structural changes involved a shift of vast amounts of labour from low-productivity farming and family enterprises to wage employment in labour-intensive manufacturing industries. As this segment of the labour force moved from one sector to the other, it and the economy as a whole achieved a much higher level of labour productivity with the help of constantly increasing technology inputs. This "technology escalator" operates robustly in manufacturing sectors and leads to "unconditional convergence" – convergence over time of labour productivity in the manufacturing sector with world standards independently of the broader economic context in which the manufacturing takes place (McMillan, Rodrik and Sepulveda, 2017). This kind of convergence has been much less apparent in the service sector, leading many experts to become pessimistic about that sector's ability to drive rapid growth.[46]

Over the past several decades, however, the automation of industrial processes has led to sharp declines in industrial employment in Western countries and to stagnation in most of the rest of the world. In the United States, manufacturing employment fell from 15 per cent of total employment in 1990 to 9 per cent in 2010; in Great Britain, the decline was from 20 per cent to 11 per cent over the same period (de Vries, de Vries and Gouma, 2014). Manufacturing employment in lower- and upper-middle-income countries has been stagnant over this period, despite a pace of economic growth that would, in the past, have driven large increases in such employment. Lower-middle-income countries have seen a modest rise in this category of employment (World Bank, 2019). Debates about some of the more detailed aspects of the situation aside, no one expects labour-intensive manufacturing employment to increase to anywhere near the levels of 30 per cent or higher seen in today's advanced economies during the classical period of Western industrialization. What seems more likely is that a small number of developing countries that are keenly pursuing manufacturing investment with effective policies will be able to achieve those levels, while the rest of the developing world will at best maintain employment in manufacturing industries at levels well below the advanced-economy peaks of the early and mid-twentieth century. Countries that have yet to attract meaningful industrial investment may be especially challenged in their attempts to grow their manufacturing employment.

Fundamental capabilities will be more important than ever, but getting them right is complicated

These trends strongly suggest that, in most countries, growth is likely to depend more than it has in the past on the service sector and on investment in fundamental capabilities. Building these capabilities, which now also include the broadband and mobile connectivity that is central to future growth, has always been necessary to ensure long-term growth (see chapter 5 regarding the role of such investments in ensuring the crucial second demographic dividend). But countries that were able to draw heavily on labour-intensive manufacturing during their early growth phase enjoyed additional gains in growth that

46 Ghani (2014) makes the case that the service sector has exhibited a more rapid convergence towards world standards than manufacturing has, but this contention is much less accepted in the literature.

were less dependent on these capabilities (especially human capital). For most countries, that source of (relatively) "easy growth" will be less accessible in the future.

Making the right investments, and enough of them, in fundamental capabilities is more complex than achieving structural change. This complexity derives from two sources. First, fiscal resources are needed to make the investments. It is challenging for less transformed countries to generate sufficient resources, since incomes are low, informality is high (making taxation difficult), and government capacities for designing and implementing effective fiscal mechanisms are less robust than in more transformed countries.

Second, good investments require forward planning, collaboration across ministries and regular reviews to ensure maintenance and suitability (World Bank, 2019). This kind of complexity may be especially challenging when building high-quality education systems, which are becoming ever more important for national growth. Managing such complexity requires strong institutions staffed by highly skilled personnel. The least transformed countries thus find themselves in a trap, since low incomes, limited fiscal resources and weak institutions make it difficult for them to make the necessary investments to raise income levels and then capture a more meaningful share of that income via taxation.

What will replace labour-intensive manufacturing?

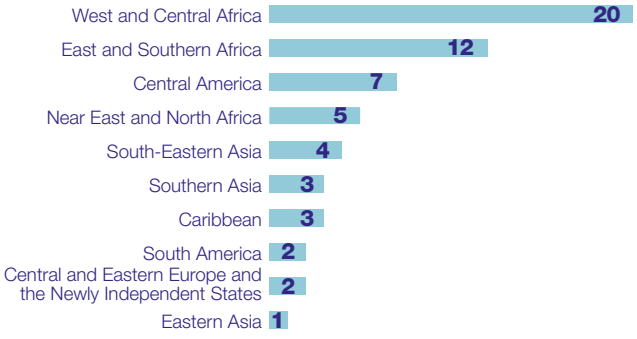
These dynamics may dampen growth in developing economies in the future. The essential question is this: If structural transformation will not make the contributions to growth that it did in the past, what will replace it? The answer is not clear (McMillan, Rodrik and Sepulveda, 2017). Some manufacturing growth could still be achieved in large domestic and regional markets (e.g. Nigeria and its neighbours and Brazil and its neighbours), but this would require, among other things, robust regional trade, to which policymakers have so far shown little commitment. Without it, the scope for manufacturing growth is greatly reduced. Globalized competition is also greater than in the past, especially as investors now see emerging economies as attractive markets. Attempts to expand within a regional market, or even a national market, are thus not free of competitive pressure from large multinational firms, which may be using highly automated manufacturing plants located elsewhere. Expanding into non-traditional agricultural export markets can provide some room for growth for some countries, including in value-added processing and packaging-for-export segments. Yet such markets are inherently limited if the objective is to provide long-term growth for multiple countries; people can eat only so much food, and this demand can almost certainly be satisfied by a limited number of countries.

Yet the digital revolution also opens up new opportunities for bridging age, gender and rural-urban divides

The same digital revolution that is reducing access to past avenues of growth and transformation is also opening up new opportunities. Most fundamentally, it is doing so by dramatically reducing the cost of information and transactions costs throughout the economy. As a result, the wide adoption of digital technologies promises to dramatically increase the pay-off to investment in fundamental capabilities.

Adoption of these technologies has been extremely rapid in developing countries. This has been especially true of mobile phones, but Internet adoption has also grown very swiftly and has spread across rural-urban and income divides. Smartphone adoption

FIGURE 8.1 Mobile phone operating costs vary greatly across regions.



Source: ITU 2017.

jumped from 24 per cent in 2013 to 42 per cent in 2018 across 19 developing and emerging economies (Pew Research Center, 2018). Even in Africa, smartphone adoption stands at 33 per cent, while it has surpassed 50 per cent in LAC and APR. This increase has happened in spite of the very high costs of using mobile phones in many countries (see **FIGURE 8.1** and Mabiso and Benfica, 2018), which point to inequalities in access that have an especially marked effect on young and marginalized groups. It is reasonable to expect that the adoption of these technologies will continue to rise rapidly as costs come down and coverage improves with increasing competition, at the same time that demonstration effects stoke demand.

Evidence on the impact of government- or donor-funded "digital development" programmes is so far inconclusive

Piggybacking on this source of growth, over 400 digital development programmes have been launched worldwide over the past decade (GSMA, various years; Aker, 2017). These programmes use digital technology to disseminate information, provide training or distribute transfers. They span a variety of sectors, including youth education and employment (especially agricultural training and adult education and vocational training), the environment, financial services and social protection. Most use simple mobile phone technology – voice and SMS – rather than smartphone applications. See Rotberg and Aker (2013), Aker and Mbiti (2010) and Aker, Ghosh and Barrell (2016) for a survey of digital initiatives in a variety of sectors, notably in agriculture.

Although fewer than 10 per cent of these programmes have been subjected to rigorous impact evaluations, the existing evidence suggests that their effects have been mixed and, for the most part, limited at best. There is little evidence on the duration of their impact, and most studies do not distinguish between youth and other beneficiaries. Overall, it appears that using digital technologies may reduce intervention costs, but the returns will depend heavily on the presence of other enabling conditions.[47]

One area where very recent research points to significant effects is video-mediated extension approaches. In Ethiopia, Abate et al. (2018) have found that community-based video-mediated extension initiatives increased the target group's knowledge about the agronomic practices that they sought to promote and increased smallholder uptake by as much as 35 per cent compared to the control group. These effects were found both when male household heads participated and also when male and female co-heads were involved. In Peru, Nakasone and Torero (2016) have found that information provided to teenagers through agricultural extension videos in a rural school increased their parents' knowledge about agricultural practices by between 21 and 30 per cent and boosted their adoption of the practices that were being promoted by between 14 and 18 per cent. In Uganda, Van Campenhout et al. (2018) also found that video-mediated extension programmes had significant effects in terms of knowledge, adoption and yield outcomes, along with important gendered effects. Smallholders who were shown the

47 Aker, Ghosh and Burrell (2016) does note, however, that "focusing on average effects over populations may conceal differential impact" and identifies large returns to some users and no returns to others.

video adopted a range of recommended practices, increasing maize yields by 14 per cent. Showing the videos to women or couples increased the women's level of knowledge and their participation in household decision-making.

Adoption of purely private services, however, may have transformational systemic effects

This proposition is based on an argument that is supported by the earliest empirical research on mobile phone use. If the fundamental effect of digital technology is a dramatic reduction in the cost of information, and if information is the foundation of appropriate action, then the set of actions that are taken on the basis of the available information should generate a higher pay-off as access to this technology spreads. Jensen (2007) has identified this impact in fish markets in southern India, and Aker (2008 and 2010) has demonstrated that it exists in grain markets in Niger. Both studies examined the privately driven adoption of mobile phones in situations where there was no publicly provided platform (the only available platform was a privately provided cellular network that allowed calling and texting). Jensen found a "dramatic reduction in price dispersion, the complete elimination of waste, near-perfect adherence to the Law of One Price,"[48] and increases in both producer and consumer welfare as measured by economists. Aker (2008 and 2010) found smaller but still large effects for grain markets in Niger (the smaller effects were attributed to the fact that grain is more storable than fish).

Sekabira and Qaim (2017) took this a step further by examining the impact of privately provided mobile money (MM) services among coffee producers in Uganda. This involved adding value to the basic service available from the cellular network by a profit-seeking firm that delivered this new service and could scale it up rapidly if consumer demand warranted it. The authors found that adoption was extremely rapid, with 62 per cent of the farmers holding an MM account by 2015, only two to three years after its introduction. They also found large effects on household welfare through multiple pathways. For example, MM adopters were more likely to add value to their coffee prior to selling it and more likely to sell to buyers from outside the region at higher prices. Overall, off-farm income increased by 45 per cent and total income by 19 per cent. This technology was also highly inclusive: female-headed households were more likely than male-headed households to adopt MM, and typical constraints on the adoption of new technologies, such as human capital and wealth, were less important.

Generalizing this argument suggests that the widespread adoption of this technology should increase the pay-off to public investment in fundamental capabilities. This argument can be substantiated with two examples. First, roads, railways, ports and marketing infrastructure reduce the cost of physically responding to opportunities. If widespread mobile phone ownership means that more people have access to more and better information that allows them to use this infrastructure for more profitable endeavours, then the economic return to the country from this investment should increase. The improved infrastructure, in and of itself, and the access to better information, despite degraded infrastructure, should both have positive effects. These effects could be large, as both studies showed, and they should be much larger when combined.

A second example is that of young people who receive a public education (another fundamental capability) that does a better job of teaching them how to ask questions, how to learn, how to identify problems and how to develop solutions to those problems

48 The Law of One Price indicates that, under conditions of perfect information, prices for the same product across a set of markets converge to the same level and will be differentiated only by the transfer costs between these markets.

(i.e. non-cognitive skills). Without access to the vastly larger set of information made possible by digital technology, these young people should still be able to profit from their education, as long as policies (or social norms, especially for young women) are not too restrictive and physical infrastructure is not too degraded. Yet they should be able to multiply the return to their education through much more profitable actions if they have access to digital technology and the information and ideas and connections that it offers.

The next frontier in privately provided applications using digital technology is the Internet of Things (IoT) (see **BOX 8.1**). The IoT emerges as digital sensory technology that is installed in the "things" that people use in their daily life, allowing communication with online databases to provide real-time, context-specific and time-specific information for decision-making. One example is precision farming, in which GPS-enabled farm machinery is loaded with a high-resolution soil quality map of a farmer's field. As the machinery for dispensing fertilizer moves over the field, the GPS communicates with the high-resolution map and automatically varies the mix of fertilizer applied to optimize results. Other uses include agricultural drones to monitor crop health or livestock monitoring through embedded chips and "smart greenhouses" that automate many crop husbandry activities (IoT For All, 2018).

These types of applications have become very common in Western agriculture. In developing countries, the number of start-ups whose owners are trying to establish a useful and profitable space has skyrocketed in the past two years. For example, new firms in Nigeria, Kenya, Ghana and South Africa are using aerial images from satellites or drones, weather forecasts and soil sensors to help farmers manage crop growth in real time. Numerous firms in Africa and India (and certainly elsewhere as well) are providing farmers with price and market information, in some cases integrated with real-time farm management information. Others are experimenting with potential applications to improve the usefulness of index insurance through links to MM (Greatrex et. al., 2015).

Because this phenomenon is so young in the developing world and moving at such a rapid pace, no solid empirical evidence yet exists on the identity of the adopters or the benefits that they are obtaining. Observation suggests, however, that one result of the availability of these technologies has been a renewed interest among entrepreneurial youth in farming that is closely linked to the possibility of serving growing markets with technology-enabled farming and marketing practices (Bello, Allajabou and Baig, 2015; Noorani, 2015; personal observation at Mastercard Foundation "Young Africa Works" Summit in Kigali, February 2017).

These benefits may be especially large, and especially inclusive, in the area of digital finance

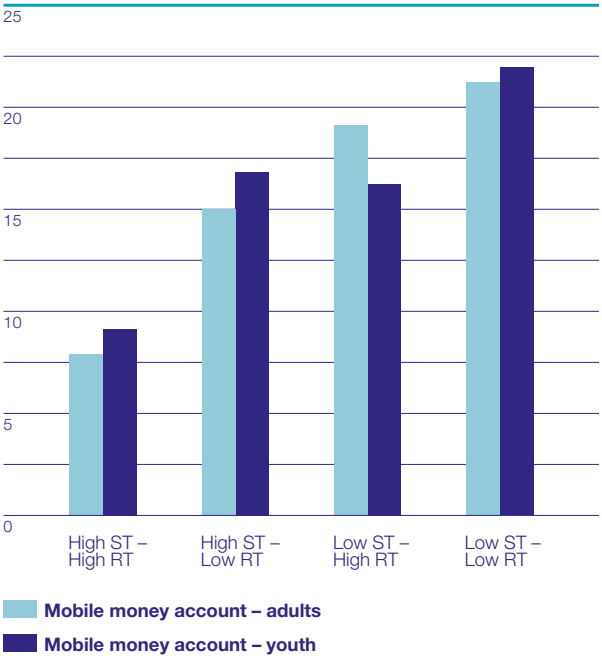
There is evidence that MM has the potential to reduce age, gender and rural-urban gaps in access to financial services. This is, first of all, because young people are early adopters of digital technologies (Aker, 2018; Gasparri and Muñoz, 2018). Second, across all country types in the country transformation typology, young people and persons over 25 years of age have comparable degrees of access to MM (Gasparri and Muñoz, 2018). This finding paints a dramatically different picture from the age patterns observed in traditional finance, where youth have little or no access. It is also surprising because young people are less engaged in the economy than adults and thus might be expected to have less of a need for MM services. Third, in Côte d'Ivoire, women are just as likely as men to have an MM account only, while men are twice as likely as women to have a traditional bank account (Clement, 2018). Fourth, MM account penetration is similar in rural and urban

areas of developing countries, standing at 14.3 per cent in rural areas compared with 16.1 per cent across the entire population (Gasparri and Muñoz, 2018). In some countries that are at the leading edge of the digital revolution, MM penetration is higher and still exhibits little if any urban-rural divide. Examples include Kenya, where MM adoption is 72 per cent, and Uganda, where it is 50 per cent for both rural and urban populations.

Most surprisingly, less transformed countries actually have a *higher* penetration rate for MM than more transformed countries (see **FIGURE 8.2**). Mobile telephony opened the way for leap-frogging invoice services, as residents in countries with poor and sparse landline phone connections exhibited an extremely rapid uptake of mobile phones. A similar dynamic seems to be taking place in financial services, where MM penetration rates are *inversely* proportional to the level of structural and rural transformation in a country. With poor access to formal banking services, digital finance is growing most quickly in countries with little pre-existing banking infrastructure and where uncovered needs are greater. This suggests that today's rural youth could have dramatically better access to financial services over the course of their lives than their elders have had, with large and lasting effects on their well-being.

FIGURE 8.2 Mobile money provides youth in the least transformed countries with access to finance

Percentage of youth and adults with a mobile money account, by country transformation category



Note: ST: structural transformation; RT: rural transformation.
Source: Gasparri and Muñoz, 2018), based on data from the World Bank (2017) as adapted by the United Nations Capital Development Fund.

To date, MM has been dominated by peer-to-peer (P2P) transfers and bill payment arrangements. Mobile credit and savings services started up later and have a lower degree of penetration, but they are growing rapidly. By far the two leading firms in this area, both in East Africa, are M-shwari in Kenya and M-pwara in Tanzania. These start-ups were just launched in 2014, but by 2017 had 13.5 million and 4.8 million users, respectively, which is equivalent to 56 per cent and 20 per cent of all users across Africa, Asia and Latin America.

Rigorous studies are still few in number, but initial evidence points to the presence of positive impacts. If scaled up, mobile credit and savings options could be transformative for many rural youth by providing far easier access to credit for activities in which short-term credit is useful. This would include trading and potentially other non-farm activities as well as horticultural farming, where loans for inputs could be paid off quickly with the proceeds from sales of crops at later stages in the cropping cycle. Bastian et. al. (2018) find positive effects on savings and credit use among female microentrepreneurs in Tanzania from the promotion of mobile savings by M-pwara combined with business training. Habyarimana and Jack (2018) evaluated the impact of the "High Hopes" initiative, a mobile-money-administered programme aimed at Kenyan high school students that sought to incentivize them to meet educational savings goals. They identified a threefold increase in financial savings and found that parents who had savings were from 18 to 24 percentage points more likely to enrol their children in high school. These students were at the lower end of the youth spectrum, which makes the results quite promising in that they suggest that digital technology could offer such young people an alternative savings vehicle.

BOX 8.2 The digital revolution may exacerbate the aspirations gap in rural areas

According to the idea of the "revolution of rising expectations", commonly attributed to Tocqueville, social upheaval typically starts not when economic and social conditions in a population are at their worst, but when they start to improve but then level off. Improvement breeds awareness of possibilities, and people then become frustrated if progress is perceived to stop or slow. More recently, Ray (2016) has formalized a theory of the *aspirational gap* in the context of rapidly changing developing countries.

The developing world, in particular Africa and Asia and some countries in Latin America, has seen strong economic growth over the past 20 years, with impressive declines in poverty and undernutrition and advances in education. This is the same period during which the digital revolution broke out around the world, including in developing countries. Together, these two dynamics have almost certainly led to dramatic increases in young people's aspirations for a better life.

Yet growth has broadly stalled over the past several years, and many suggest that expectations of rapid long-term growth may have to be scaled back (McMillan, Rodrik and Sepulveda, 2017). Given the ingrained patterns of urban bias in national investment planning, rural areas and links between them and urban areas may suffer the brunt of governments' adjustment to more straitened circumstances. To a much greater extent than young people living in urban areas, rural youth may thus continue to have to cope with spotty or non-existent Internet and mobile phone service owing to a lack of investment and competition, along with poor roads, erratic supplies of electricity and sanitation services, and the social exclusion inherent in living in rural areas of rapidly urbanizing countries. The result could be frustration, potentially high rates of out-migration from rural areas, potential political and social unrest – and higher rates of poverty than would otherwise exist.

Governments can forestall these effects, however, if they emphasize transparent and effective governance, promote competition in the provision of digital services, invest in their countries' fundamental capabilities, including sound rural development, and work to ensure the inclusion of rural youth in these processes.

Capturing the potential benefits of the digital revolution for rural youth requires new investments at the national level and the development of new skills by young people

The digital revolution promises profound changes in the way that people live and work in the developing world. Digital technology also has the potential to be far more inclusive than traditional technologies, with evidence emerging that rural areas can adopt such technologies as quickly as urban ones, women as much as men, and low-income individuals as much as their more wealthy counterparts. It is particularly striking that MM adoption is much higher in the least transformed countries, which speaks to the transformative potential of this technology.

Living in rural areas, being young and being female are three of the key "layers of exclusion" that limit the productivity, connectivity and agency that are central to building good lives. The evidence that these divides or gaps may not exist to anywhere near the same extent in the case of digital technology as they have with older technologies suggests that rural youth, and young rural women in particular, could stand to gain the most, at least in a relative sense, from policies and investments that promote broad access within countries.

Improved fundamental capabilities, combined with an appropriate regulatory environment, are the key elements in promoting broad access

Rural areas suffer the most from poor infrastructure and education. If the rural-urban divide persists in these kinds of investments, rural youth may adopt digital technologies but will be unable to obtain the level of returns they need in order to keep up with urban youth, and the overall divide will widen. This is a clear area for public action.

Direct investment in mobile telephony and mobile broadband infrastructure is *not* a public responsibility, but rather a private opportunity. Governments' primary

responsibility is to create a regulatory environment that promotes competitive investment by multiple private mobile network operators in order to keep costs down.

With respect to MM, there are several important regulatory issues. First, regulatory frameworks should facilitate the emergence of *agent networks* for the provision of financial services. Such networks hold out special promise in promoting financial inclusion in sparsely settled rural areas where the cost of setting up brick-and-mortar branches may be prohibitive. The concept is based on the provision of financial services through a network of convenience stores and outlets that sign an agency agreement with the provider and earn a commission on every transaction performed on the provider's behalf. Agent networks allow financial service providers to lower the costs associated with opening branches or installing ATMs, thereby overcoming the limitations of brick-and-mortar models in order to reach a wider customer net and extend their services to "the last mile". They also offer mobile network operators the possibility of moving into locations that financial service providers have not yet reached. For rural populations, both adults and young people alike, having an agent nearby means they no longer have to travel long distances and spend money on transportation to get to the branch office of a financial service provider. At agent locations, rural youth can also pay bills, send/receive money to/from family members and friends, or pay instalments on purchases via pay-as-you-go technology, among other services.

Second, companies may need technical assistance to ensure the interoperability of MM platforms – assuming government regulatory frameworks promote this. The International Finance Corporation's provision of this type of assistance to companies in Tanzania contributed to a tripling of MM transactions just between February and September 2016 (Moretto and Scola, 2017). Third, regulations should allow mobile network operators (not just banks) to provide MM. This is critical to promoting competition and facilitating the emergence of the agent networks that have been so central to the expansion of MM in Kenya and Tanzania. Fourth, because the vast majority of MM services in Africa are provided by foreign firms (Nakasone and Torero, 2016), openness to foreign investment is important in order to promote access. This relates back to the need for a strategy that promotes broad competition, not just competition among local or regional providers.

People seeking to benefit from digital technology need stronger cognitive and non-cognitive skills so that they can seek and productively utilize information

The productive utilization of information is a complex ability requiring multiple skills, but without it, access to mobile technology will have a much lower pay-off for an individual. People who have this ability will be able to dramatically increase their productivity; those who do not will see little effect. Rural education needs to improve what are currently very poor (especially in Africa) learning outcomes, which should include the development of the non-cognitive and socio-behavioral skills that will be so important in the new economy. Financial literacy is another important element, since rural youth need to be financially literate in order to use MM and other digital financial services. In keeping with these ideas, schools need to emphasize "learning to learn" instead of simply having students engaged in mastering facts, since the rate of change in information and knowledge – very much driven by the digital revolution – means that any mastered set of facts will need to be updated regularly and throughout a person's life if they are to remain relevant.

SPOTLIGHT Remittances contribute to rural youth development

Migrants' contributions, in numbers, to rural youth development

Remittances to low- and middle-income countries amounted to around US$389 billion in 2015,[49] **and around 44 per cent of that sum flowed into countries where more than half of all rural youth live.** The fact that countries with high levels of structural transformation saw a rapid increase in remittance inflows between 2000 and 2015 throughout their transformation process underscores the massive contribution being made by international migrants to the development of their home countries. In many places, the level of remittances is much higher than the level of foreign development aid inflows. Even the least transformed countries have experienced an increase over the past 15 years, but they still receive only 4 per cent of global remittances. These inflows have a huge potential for fostering inclusive rural development because of their private nature. Rural youth can benefit from these contributions in various ways, such as improved access to financial services, improved health and education facilities, and direct capital and knowledge investments in young rural entrepreneurs.

Remittances from internal migration are more likely to reach rural areas and play an important role in reducing household poverty. Global estimates indicate that only 40 per cent of international remittances reach rural areas (IFAD, 2017), which suggests that remittances to rural areas are more likely to come from internal migrants. In fact, although these remittances are often smaller in amount, they reach more families (McKay and Deshingkar, 2014), helping to reduce the depth of household poverty and increase investments in housing and education (Housen, Hopkins and Earnest, 2013). Remittances can be especially important when a household experiences an economic shock, since they may then allow the household to mitigate its negative effects and, in particular, to keep children and young people in school (Alcaraz, Chiquiar and Salcedo, 2012; Adams and Cuecuecha, 2010). In a recent study using data from 11 countries, rural youth with a migrant relative were found to have, on average, lower incomes (excluding remittances) than rural youth who were not receiving remittances, indicating the income-smoothing function of remittances for rural youth (Orozco and Jewers, 2018).

49 The countries included in this calculation are the same ones covered in the country typology presented in chapter 1. The full list of countries is provided in annex C. The data on remittances are taken from the World Bank, Annual Remittances Data: Inflows (updated to April 2018).

Remittances to rural areas can facilitate young people's access to finance

Evidence has shown that remittances promote the expansion of financial services in developing countries (Aggarwal, Demirgüç-Kunt and Martínez Pería, 2011) and that a larger proportion of remittance receivers in rural communities can increase financial access in these areas (Efobi, Osabuohien and Oluwatobi, 2015; Aggarwal, Demirgüç-Kunt and Martínez Pería, 2011). In a study conducted by Orozco and Jewers (2018), around 46 per cent of the rural youth receiving remittances were found to possess at least one financial product. The most common financial product was a savings accounts (32 per cent), and these young people saved, on average, significantly larger amounts than those who did not receive remittances. However, rural youth remain among the population groups with the lowest banking penetration rate (Orozco, Yansura and Carmichael, 2014). A functioning financial ecosystem is required in order for remittances to have their full developmental effect. In this connection, recently developed tools that have helped to significantly reduce the transaction costs of sending remittances to rural areas include mobile money and other digital technologies. This is especially true in countries and areas where mobile phone penetration is high and related payment systems function well (IFAD, 2017). However, in more remote rural areas, Internet-based services are less likely to be implemented, and poorer households are unlikely to own a smartphone.

Diaspora investment in rural communities benefits rural youth

While remittances sent directly to households of origin can be seen as private investments in one's own family, diasporas are also contributing to community development. Hometown associations are organizations that bundle together the private contributions of migrants in a specific destination country to local communities in their country of origin, many of them in rural areas (Orozco and Jewers, 2018). The main areas of investment involve economic development, including education, rural development and health and sanitation improvements. These are all areas that are especially beneficial for rural youth, giving them greater access to higher-quality education and health facilities, along with basic infrastructure in areas where local government capacity has fallen short. However, diaspora engagement in rural communities does not have

to be a substitute for local government. On the contrary, collaboration between public and private agents can lead to effective rural development initiatives. Aside from financial contributions, international migrants can also share valuable experience with less skilled and less experienced persons in their home country. One example of such partnerships involving government- and donor-supported initiatives is the African Diaspora Marketplace (ADM). ADM provides capital funding to international migrants from African nations who have business partners and proposals for investments in their country of origin. While this initiative is as yet small in scale, it points to potential areas of investment that would allow young entrepreneurs in rural areas to start and run a successful business (Orozco and Jewers, 2018).

Public investments should aim to channel remittances into productive areas. In order for this to happen, two major strands are envisioned. One is investment in satisfying the basic needs of rural households so that remittances can be used to save and invest in productive activities instead of being used to pay for daily consumption items. The other strand targets the business environment of rural areas and would provide incentives for private investment by helping to build a functioning financial ecosystem and market linkages. The direct benefits for rural youth from such investments can take the form of lower poverty rates, more schooling, better health and access to finance for entrepreneurial activities.

BOX 8.3 IFAD's Financing Facility for Remittances: Lowering the cost and maximizing the impact of remittances for development

IFAD's Financing Facility for Remittances (FFR), a multi-donor facility financing innovative projects to enhance the development impact of remittances and migrants' investment, supports capacity-building, advocacy and research in this field. Since 2006, the FFR has funded more than 60 projects in over 45 countries across the developing world that use innovative technologies to lower the transaction cost of remittances, promote access to financial services in remote areas and foster migrant investment and entrepreneurship. The FFR is also an important source of knowledge on remittances and migrants' investments.

Among other initiatives, the FFR has pioneered the creation of an enabling environment for the introduction of mobile remittance and banking services, reducing the costs, enhancing financial inclusion for un(der)banked populations and increasing the contribution of migrant remittances to sustainable development. Further information is available at: https://www.ifad.org/web/guest/ffr

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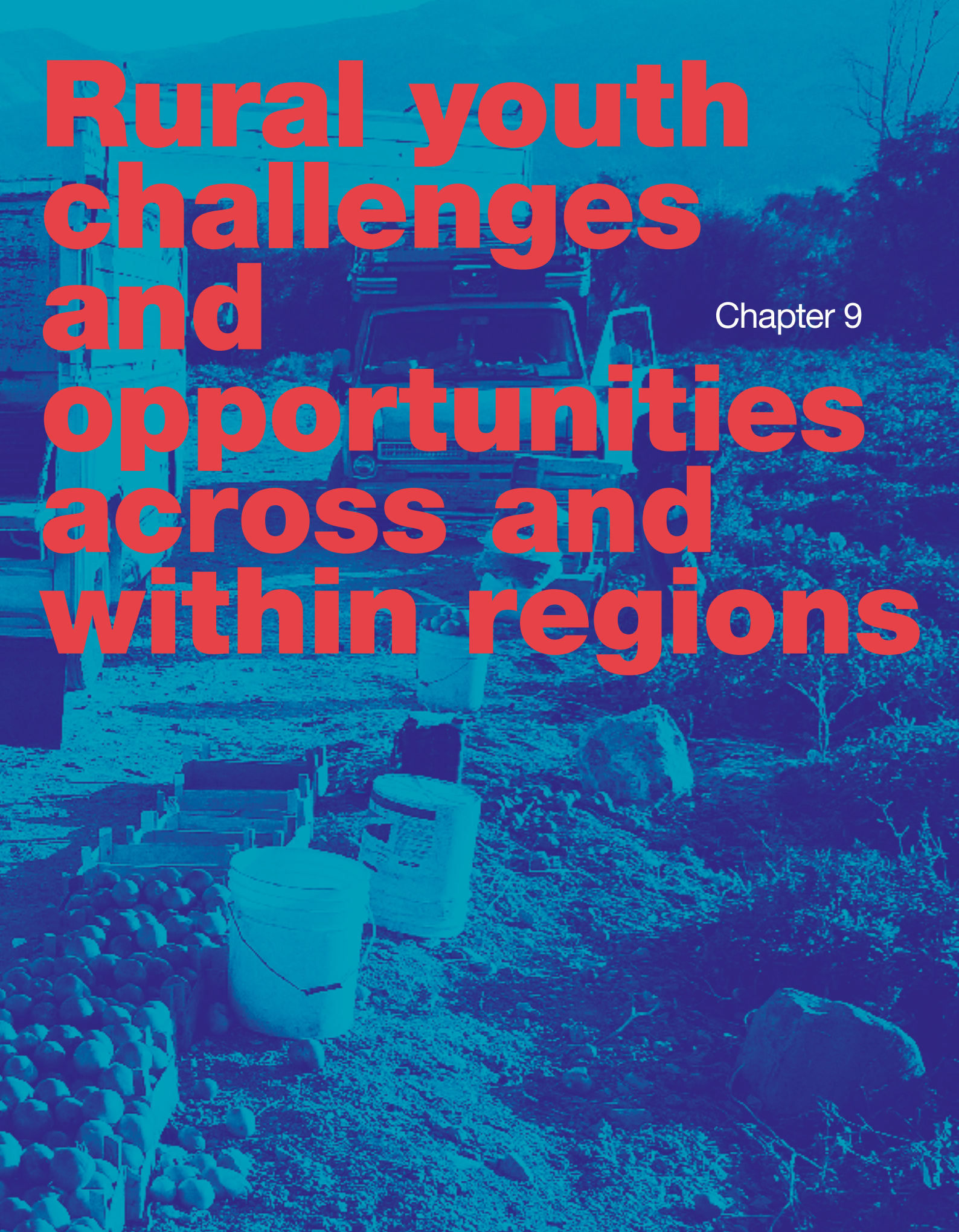


Rural youth challenges and opportunities across and within regions

Chapter 9

The dynamic construct of rural youth and the challenges and opportunities they face inevitably vary significantly across different regions of the world, as well as within them. The previous chapters of this report have discussed this variation in terms of how it changes depending on the structural and rural transformation levels of the countries that young people live in, the differing commercialization and agricultural potentials of the geographies where they reside and the types of households that they belong to. Attention has also been devoted to how young women in rural areas face another layer of exclusion in terms of their livelihood choices, how adolescents may face different challenges than those confronted by young adults and how these patterns differ across regions.

This chapter provides an overview of the salient differences in the rural youth challenges across regions and discusses intraregional differences as a basis for locally relevant thinking about action areas. To that end, this overview will be structured on the basis of the four regions of the developing world: sub-Saharan Africa (SSA), the Near East, North Africa, (southeastern) Europe and Central Asia (NEN), Latin America and the Caribbean (LAC), and Asia and the Pacific (APR). These regions are then divided into the 10 subregions shown in **TABLE 9.1**. Given that youth realities are likely to differ significantly within regions as well, this chapter provides subregional data and discussion, where possible.

Broad regional patterns: Demographic transition and the ability to invest in rural youth

One of the most significant differences across regions that determines their youth challenges is the stage reached in their demographic transitions. As discussed in chapter 5, the demographic dividend provides a temporary opportunity to countries when their populations have a "youth bulge"; if they invest in the fundamental elements of growth during this period, they can reap a demographic dividend that can continue to deliver welfare improvements for their citizens when their population starts to age. These fundamentals include infrastructure, policies and institutions that are conducive to innovation and growth, and human capital. Though most of these investments are enablers of broad economic development, investments in human capital are particularly relevant for young people. These investments are not confined to improvements in formal education but instead also include investments in the development of non-cognitive skills, whose importance is being increasingly recognized (World Bank, 2018). Investments to improve the productivity, connectivity and agency of youth are needed during the demographic transition in order to help realize that dividend.

In addition to the number and proportion of youth (and rural youth) in the population and how they are projected to change during the demographic transition, another important determinant of the types of investments needed in each country is the stage that it has reached in its structural and rural transformation processes. Variables

TABLE 9.1 Regions and subregions

Region	IFAD subregion	Low- and middle-income countries and territories in the subregion
NEN	Near East and North Africa (NENA)	Algeria, Djibouti, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Somalia, Sudan, Syrian Arab Republic, Tunisia, the West Bank and Gaza, Yemen
	Central and Eastern Europe and newly independent States (CEN)	Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Georgia, Kazakhstan, Kosovo, Kyrgyzstan, North Macedonia, Moldova, Montenegro, Romania, Russian Federation, Serbia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan
SSA	East and Southern Africa (ESA)	Angola, Botswana, Burundi, the Comoros, Eritrea, Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Seychelles, South Africa, South Sudan, Tanzania, Uganda, Zambia, Zimbabwe
	West and Central Africa (WCA)	Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone and Togo
APR	East Asia (EA)	China, Democratic People's Republic of Korea, Mongolia
	South Asia (SA)	Afghanistan, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, Sri Lanka
	South-East Asia and Pacific (SEA)	Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Thailand, Timor-Leste, Viet Nam, American Samoa, Fiji, Kiribati, Marshall Islands, Federated Sates of Micronesia, Nauru, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu
LAC	Caribbean (CB)	Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, St. Lucia, St. Vincent and the Grenadines
	Central America (CA)	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua
	South America (SAM)	Venezuela, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Bolivia, Suriname

such as productivity in the agricultural sector, the importance of non-farm sectors in the economy, and political and institutional structures all factor into this decision. Though these numerous factors combine in unique ways in each country to define its challenges and opportunities for the inclusion of rural youth in its rural transformation process, there are broad regional and subregional patterns that can help frame policymakers' thinking about rural youth. These patterns are discussed in this chapter.

The number of rural youth is increasing only in SSA and has been either stable or decreasing in other regions. This pattern is driven by the fact that the demographic transition has been slow to unfold in Africa, which has stubbornly high fertility rates, especially in rural areas. Although APR hosts the largest number of young people today, this number is decreasing, and the APR youth population is projected to be overtaken by SSA around 2070, after which SSA will be home to a majority of the world's young people (Stecklov and Menashe-Oren, 2018). Youth policy and investment needs at the country level, however, are indifferent to global or regional comparisons and depend on

the numbers and trends in each country. **FIGURE 9.1** shows that the current challenge is greatest in APR, which has a total of more than 600 million youth. Within APR, South Asia (SA) is the subregion with the biggest challenge, as it hosts more than half of APR's total youth population. These subregions are witnessing a decline in their youth populations, however, which indicates that their current youth challenge is not a novel one. APR also includes a number of countries that successfully reaped the demographic dividend in the 1990s and that can therefore set an example for the rest (see **BOX 5.1**).

SSA and its subregions, on the other hand, are facing a challenge that they have never faced before in their history. Even though the proportion of youth in the population

FIGURE 9.1 Youth population histories and trajectories vary significantly across and within regions

Millions of youth by sub-region, 1950-2050

Note: Each bar shows an estimate (up to 2015) or a projection of the medium variant (after 2015) of the number of persons between the ages of 15 and 24 in one year at five-year intervals. Note the scale difference between the upper and lower panels (0-400 million for APR and SSA, 0-80 million for LAC and NEN).
Source: Authors' calculations based on United Nations, *World Population Prospects: The 2017 Revision.*

will plateau or decline, the numbers of young people in SSA are projected to more than double to over 380 million by 2050, with the increase being steeper in West and Central Africa (WCA) than in the rest of the region. These numbers, combined with the fact that the continent also contains many countries that have low levels of structural and agricultural transformation, make the challenge of rural youth inclusion all the more daunting, which is why rural development discourse in the region has been increasingly dominated by this issue.

The other two regions have much smaller youth populations, although not necessarily smaller challenges in ensuring their inclusion. In LAC, South America (SAM) has the largest numbers of young people, although all subregions are projected to see a decline in those numbers. In NEN, Near East and North Africa (NENA) is faced with a similar pattern to that of SSA, with a projected increase in the number of young people from 42 to 62 million by 2050. It thus joins the ranks of the subregions that are confronted with a novel and increasing challenge in terms of the inclusion of their young populations due to their delayed demographic transitions.

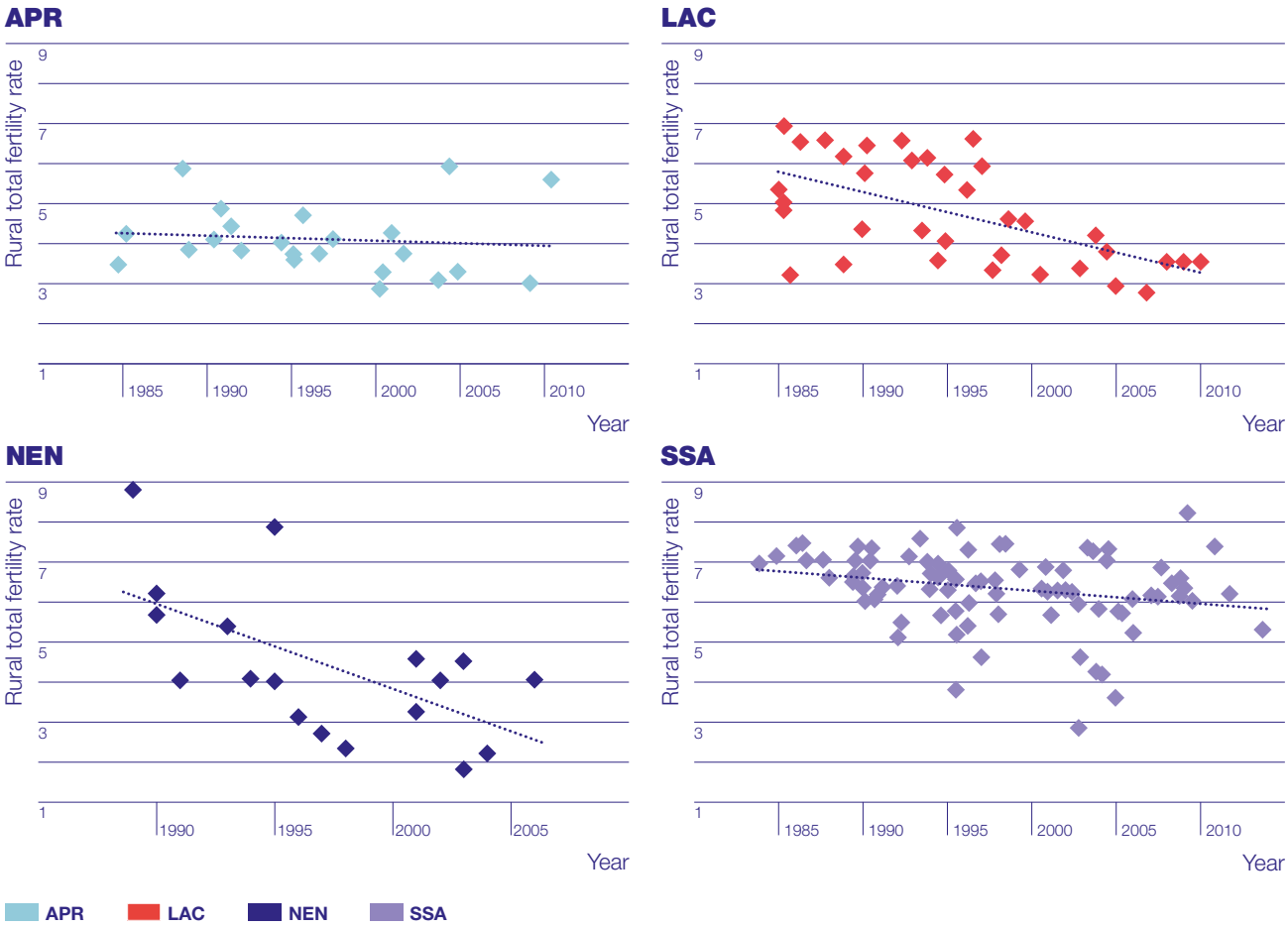
The differences in the demographic transition across regions are driven by differences in the rate of fertility decline. SSA is the region that is lagging behind in the demographic transition, while LAC and APR are in the lead and NEN is in the middle. The population of SSA in both rural and urban sectors is young: 65 per cent of the male population in rural areas (defined as such on the basis of the countries' administrative divisions) is younger than 25, and 19 per cent of that population segment is in the 15-24 age group. The total fertility rate (TFR) in rural SSA remains around 6 children per woman and has not declined much since 1980. In comparison, other regions have witnessed substantial fertility declines, although the rate has been slow to descend in APR, where it remains around 4 children per woman (see **FIGURE 9.2**). Although the NEN age structure is different from that of SSA, 15-24 year olds make up a similar proportion of the rural population (19 per cent). APR and LAC have smaller proportions of their populations under age 25, particularly in the urban sector, which is indicative of fertility declines in these regions. In the rural sector, young women and men comprise 19 per cent of the rural population in LAC countries and 16 per cent in APR countries. All of the regions have higher rural fertility rates, with the rates declining along the rural-urban gradient (Stecklov and Menashe-Oren, 2018).

The potential for reaping the demographic dividend hinges on reductions in fertility rates, and this is critically so for SSA given its stubbornly high rates, especially in rural areas. Declines in infant and under-5 mortality rates usually precede fertility declines, but this has not happened to any great extent in rural SSA, which has the highest infant mortality rates in the world (Stecklov and Menashe-Oren, 2018). These rates are even higher in the case of children born to young mothers in all regions, which underlines the importance of investing in young women's reproductive education, as well as their incorporation into the economy, if their countries are to avoid missing the demographic dividend.

Notwithstanding the differences in the stages reached in the demographic transition, the shares of the rural youth population in the total population are actually declining in all regions of the world (see **FIGURE 9.3**). While the average share of the urban and rural youth populations in the total population of countries in SSA is projected to increase slightly and to remain above 20 per cent until around 2045, it has been decreasing in all other regions since the late 1990s. The difference between the trends in the total and rural youth shares is attributable to increasing urbanization (and, to a small extent, rural-urban migration). There are stark differences across regions in terms of urbanization

FIGURE 9.2 SSA has historically had the highest rural total fertility rate, which has been very slow to decline

Total fertility rate, by region, 1986-2014



Notes: APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa. The total fertility rate (TFR) is the average number of live births a woman would have by age 50 if she were subject, throughout her life, to the age-specific fertility rates observed in a given year.
Source: Authors' calculations based on Demographic and Health Survey (DHS) data and Stecklov and Menashe-Oren (2018).

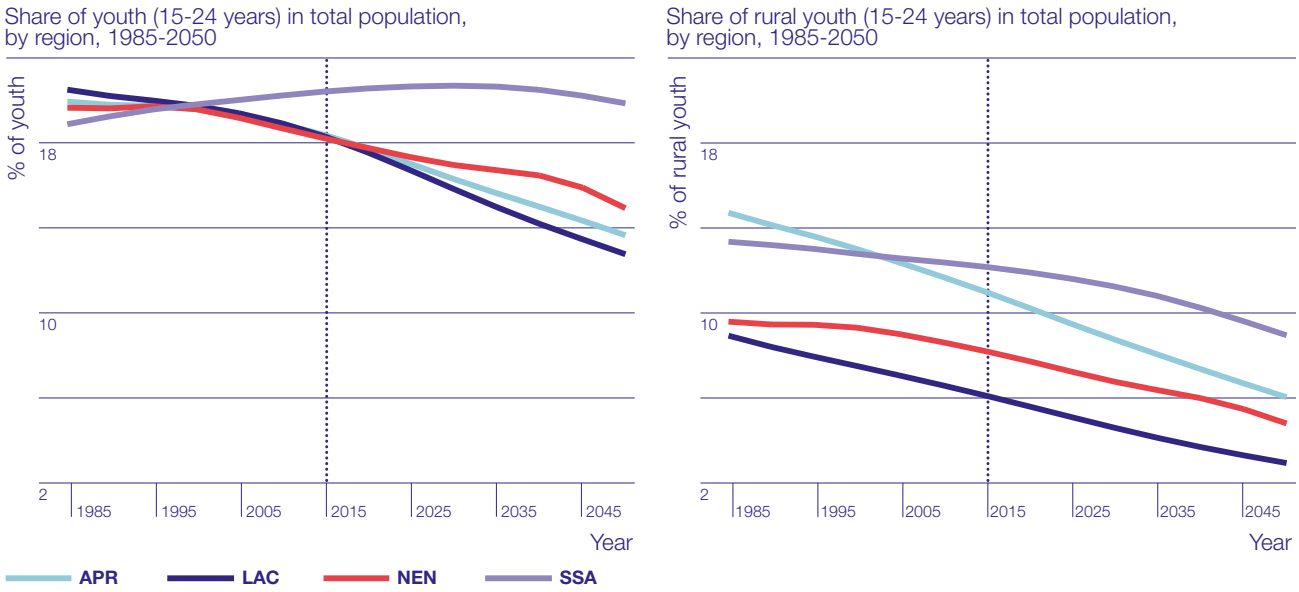
rates, with APR and SSA still predominantly rural, and the other regions mostly urban. The potential for agricultural transformation accompanying structural transformation in SSA and APR is high as labour shifts to the urban sector and demand rises for value-added foods (Timmer, 2009). Declines in the proportion of rural youth in the population do not mean that the rural youth challenge will be easing, however, as countries need to create employment opportunities for rural youth in both the rural and urban sectors.

The distribution of rural youth and the capacity to invest in them across subregions

There are substantial variations across subregions in terms of their shares of the global rural youth population, the average share of the rural youth population in the total population and the variables that determine their capacities to invest in rural youth (see **TABLE 9.2**). The South Asia (SA) subregion is home to almost half of the world's rural

FIGURE 9.3 The share of young people in the population is projected to decrease everywhere except in SSA, while the relative size of the rural youth population is decreasing everywhere

Projected population share of youth and rural youth up to 2050, by region



Notes: The dataset covers 85 low- and middle-income countries (based on World Bank definitions and 2018 data). Rural-urban definitions are based on the administrative categories used in the tabulations of data prepared by the United Nations.
Source: Authors' calculations based on United Nations, *World Population Prospects: The 2017 Revision*.

TABLE 9.2 Rural youth shares and indicators of ability to invest in the youth population are highly diverse

Region	Sub-region	Share of all rural youth in sub-region	Average share of rural youth in total population			Income per capita	Poverty rates		Government Effective-ness Index	No. of countries in conflict/ total no. of countries
			2015	2030	2050		Rural	Urban		
NEN	NENA	4	7	7	5	10 526	3	1	32	4/14
	CEN	2	9	8	6	11 913	10	7	38	2/9
SSA	ESA	12	14	13	10	3 339	54	30	30	6/20
	WCA	9	10	10	8	3 119	51	28	18	8/24
APR	EA	15	5	4	2	10 288	11	0	68	0/2
	SA	42	12	10	7	7 156	15	13	38	4/9
	SEA	11	10	8	6	9 664	14	9	44	4/19
LAC	CB	0	4	2	1	13 921	3	2	44	0/7
	CA	2	7	5	4	8 892	12	5	39	0/7
	SAM	2	5	4	3	11 253	9	2	41	1/9

Note: Income is measured as gross national income (GNI) per capita, at purchasing power parity (PPP) (constant 2011 international $) (source: World Development Indicators, World Bank). Poverty is measured as the poverty headcount ratio at $1.25 a day (2011 PPP) (% of population) (source: World Development Indicators, World Bank). Government effectiveness is a measure capturing perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of a government's commitment to such policies (Kaufmann, Kraay and Mastruzzi, 2010). The numbers in the table are the average percentile rankings of countries in each subregion, hence higher numbers indicate better outcomes. The definition of a country in conflict is taken from the Uppsala Conflict Data Programme (UCDP) / Peace Research Institute Oslo (PRIO) Armed Conflict Dataset (*source:* Baliki et al., 2018). The definition of fragility is based on the one used for the Harmonized List of Fragile Situations for fiscal year 2019, World Bank, 2015 (source: United Nations Department of Peace Operations (DPO), African Union (AU) and European Union (EU) websites). The dataset covers 85 low- and middle-income countries.

youth, at 42 per cent, followed by 15 per cent in East Asia (EA) and 12 per cent in East and Southern Africa (ESA). The subregions of Latin America and the Caribbean (LAC) and the Near East, North Africa and Europe (NEN) have the smallest shares, at around 2-4 per cent. Looking at the average share of rural youth in individual countries' populations, which is more relevant for national action on rural youth, countries in the ESA subregion have the largest average share of rural youth in their populations (14 per cent), followed by the SA subregion. The share in ESA is projected to decline slowly by 2050, while it is projected to decline rapidly in SA. Currently, West and Central Africa (WCA) and South-East Asia and the Pacific (SEA) have the same average rural youth shares at 10 per cent, but they differ significantly in terms of the projected rate of decline in these shares. While SEA countries will have an average rural youth share of only 6 per cent in 2050, those in WCA are projected to have 8 per cent, leaving the two subregions of SSA with the largest average shares of rural youth in their populations in the world by 2050.

The capacity of countries to invest in their rural youth varies significantly within regions. Both subregions of NEN (CEN and NENA) have very high incomes per capita, but they exhibit sharp differences in terms of poverty rates. Countries in CEN have, on average, higher poverty rates than NENA, even though they also have higher incomes, which points to the existence of high levels of inequality. Within SSA, which is the poorest region of the world, the ESA and WCA subregions look very similar in terms of their income and poverty profiles, with more than 50 per cent of the rural population living in poverty. Within APR, SA is the poorest subregion with the highest rural poverty rate. It is also home to the largest share of the world's rural youth and is thus faced with a formidable challenge. EA is the richest subregion with the lowest poverty rate in APR. Finally, the subregions of LAC are among the richest in the developing world, apart from Central America (CA). CA has the region's largest rural youth share, and both CA and South America (SAM) stand out with relatively higher rural poverty rates.

Incomes and poverty rates frame rural youth policies and investment needs, while government effectiveness determines the capacity for implementing them. EA ranks highest in terms of this indicator, followed by SEA and all the subregions of LAC. SA and CEN tie at the 38th percentile, followed by NENA, ESA and WCA as the lowest-ranking subregions in terms of government effectiveness. Not surprisingly, the subregions of SSA are also the ones with the lowest incomes and highest poverty levels and include the highest numbers of countries in conflict (especially in WCA). For all of these reasons, the rural youth challenge is closely intertwined with the rural transformation challenge in this region. NENA, on the other hand, has different challenges, as it has very high incomes and low poverty rates, but it also has low ratings for government effectiveness, largely as a consequence of the existence of authoritarian regimes and the fact that a number of countries are the sites of long-lasting conflicts. The various combinations of these factors result in unique challenges for each subregion which will be discussed in more detail in section C.

How does the rural opportunity space shape young people's economic engagement in the different regions?

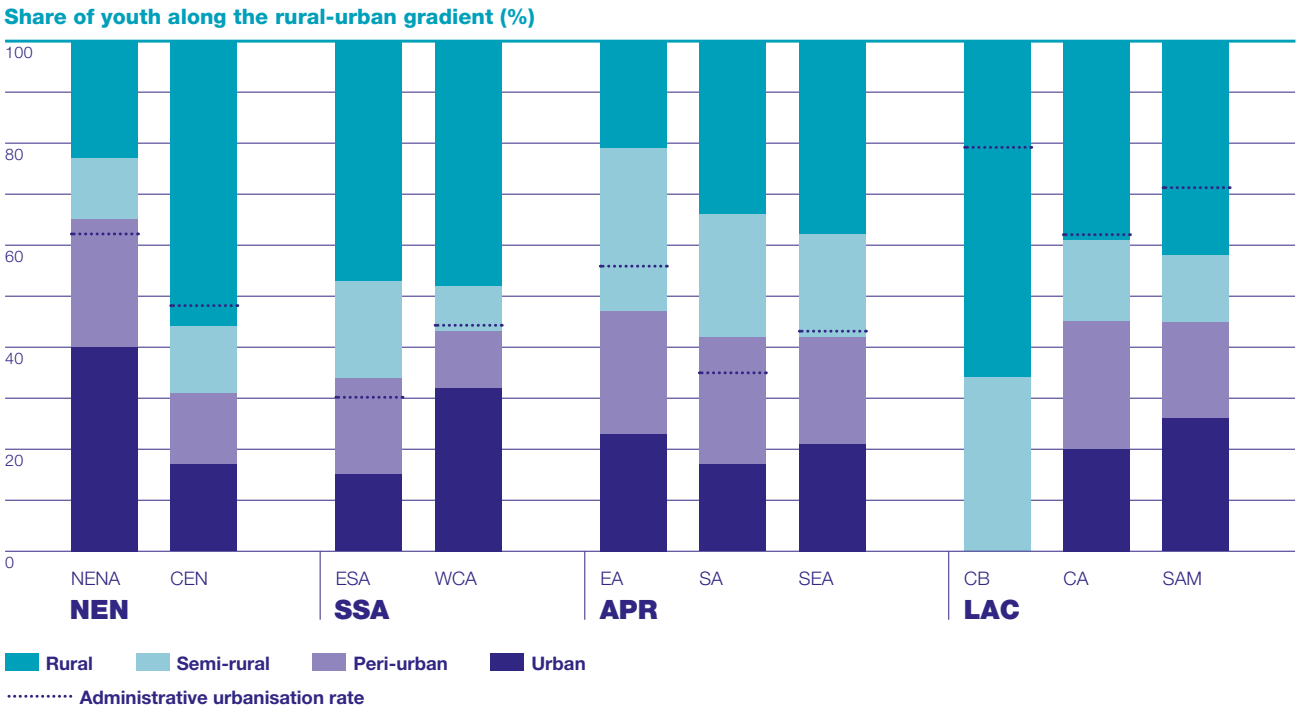
The concept of the rural opportunity space which was introduced in chapter 1 and discussed in detail in chapter 2 is defined by commercialization potential and agricultural production potential (see **BOX 2.1**). Commercialization potential is proxied by population density, as more economic activity takes place and creates more opportunities in densely populated areas than in sparsely populated ones. Administrative rural-urban divisions

are typically used to capture part of this difference and to guide policies, investments and the allocation of funds for development. The reality on the ground, however, is increasingly becoming more gradated, as agrifood systems (AFS) are expanding towards secondary cities and rural towns as the rural transformation process creates opportunities off the farm. As indicated in this report, understanding where rural youth live along this continuum is the first step in understanding the opportunities they face. The notable differences that exist across subregions in this respect are discussed below.

More than one third of the youth population, on average, live in semi-rural and peri-urban areas across all the subregions (except WCA). **FIGURE 9.4** presents the average percentages of youth who live along the rural-urban gradient (rural, semi-rural, peri-urban and urban areas), along with the administratively defined urbanization rates in each subregion. In terms of official administrative divisions, the subregions of LAC have the highest urbanization rates, but most of their young people live in rural and semi-rural areas as defined by the global population density thresholds. While official statistics give the impression that only one in three young persons lives outside of urban areas in SAM, in fact more than 70 per cent live in rural, semi-rural and peri-urban areas, out of which 42 per cent are in the least connected areas, which are characterized by low commercialization potential and, hence, relatively few employment opportunities.

APR (and all of its subregions) is the only region where peri-urban and semi-rural areas are each consistently home to more than one fifth of the youth population, attesting to the region's high level of connectivity and its more advanced stage in the AFS transition, on average, compared to other regions. This average value, however, masks substantial variations at the country level, where the share of rural youth ranges from 1 per cent to 80 per cent. It is therefore important to determine where rural youth are located within the opportunity space before drawing up national policies and investment strategies for their inclusion.

FIGURE 9.4 The majority of young people live in non-urban areas as defined by population density



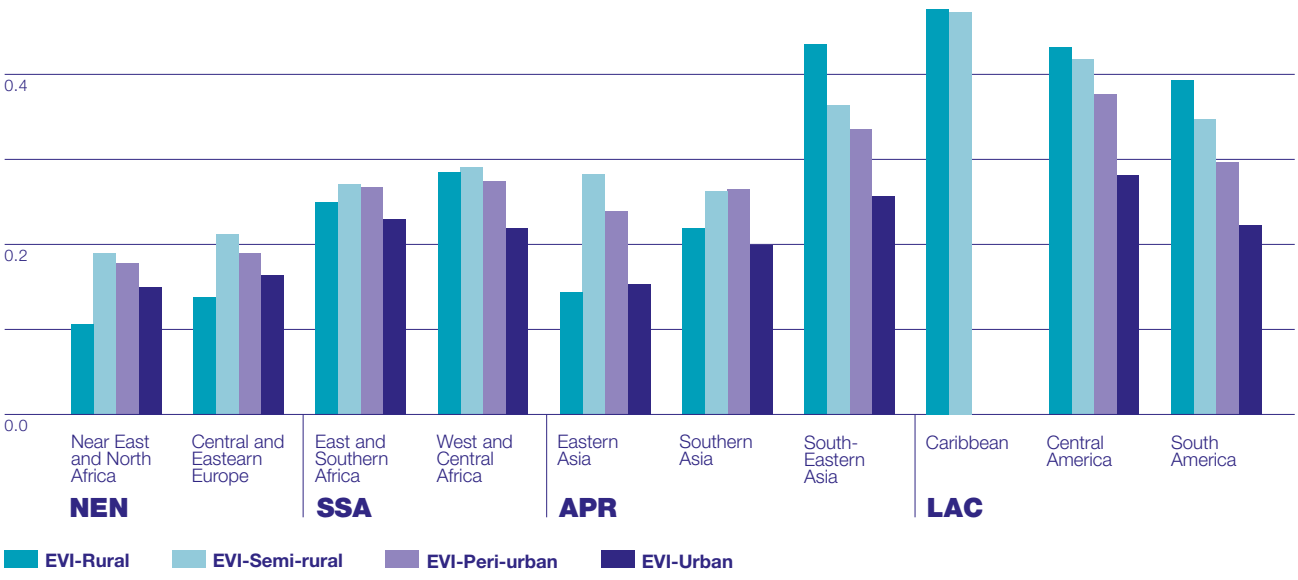
Notes: The rural-urban gradients are defined using population density data from the WorldPop project to divide the world into four quartiles, each of which contains one fourth of the population. The implied population densities are used to categorize each grid in the database into one of the four categories. The dataset covers 85 low- and middle-income countries. EA includes China only, while CB includes the Dominican Republic only.
Source: Authors.

The WCA subregion exhibits a quite small middle ground, with only around 10 per cent of young people living in semi-rural or peri-urban areas and around one half of the youth population residing in rural areas. ESA also has about one half of its youth population in rural areas, but fares better in terms of connectivity, as around 20 per cent of its youth live in semi-rural areas and another 20 per cent in peri-urban areas. The two subregions of NEN display opposite patterns in terms of the commercialisation potential of places where their rural youth live: while 40 per cent of young people live in the most densely populated urban areas in NENA countries, only 17 per cent live in such areas in CEN countries, while 56 per cent live in the least densely populated rural areas.

The rural oportunity space combines commercialization potential with agricultural production potential, as agricultural productivity growth drives rural and structural transformations. Rural youth employment opportunities also depend on this variable, which is proxied by the Enhanced Vegetation Index (EVI) discussed in chapter 2. **FIGURE 9.5** shows the average EVI values of all spaces along the rural-urban continuum, by subregion. The subregions of NEN have the lowest EVI values, which reflect the aridity and water constraints that limit this region's agricultural transformation (Kabbani, 2018). The EVI is higher for semi-rural areas than for rural areas in general (except in SEA and LAC) and then decreases with increasing proximity to urban areas. The differences that are plotted, however, are very small, as the EVI is a normalized index that ranges between -1 and 1. Combined with the fact that 67 per cent of the total rural youth population live in areas that have the highest agricultural potential (see **FIGURE 2.4**), the rural-urban gradient axis of the rural opportunity space comes to the fore. The productivity challenges faced in rural areas, such as low yields, low labour productivity or soil degradation, which are projected to grow worse in many places as a consequence of climate change, need to be conceptualized within the framework of the rural-urban gradient. As connectivity along

FIGURE 9.5 Agroecological potential varies across the rural-urban gradient and across subregions

Values of the EVI over the rural-urban gradient, by subregion



Note: The values depicted are three-year average EVI values to smooth out seasonality.
Source: Authors' calculations based on data from the Enhanced Vegetation Index (EVI) of the Moderate Resolution Imaging Spectroradiometer of the National Aeronautics and Space Administration (MODIS-NASA) for 85 low- and middle-income countries based on World Bank definitions and 2018 data.

this gradient improves, most of the constraints associated with low productivity may be addressed with the help of improved access to inputs, information and markets.

Much of the discourse around rural youth employment is based on the supposition that young people are leaving agriculture and flocking to cities where they end up in precarious situations that potentially fuel dissent. Evidence does not support this statement, however, as may be seen from **TABLE 9.2** above, since the majority of young people live in rural and semi-rural areas in all the subregions covered in this report. Whether and to what extent these young people engage in agriculture is harder to document, as this would require detailed employment data on individuals and formal employment data fail to capture most agricultural work, which is informal, especially in rural areas. Existing and emerging evidence appears to indicate that the actual situation differs from what it is commonly claimed to be, as youth do engage in agriculture, in general, and the AFS, in particular, to varying degrees (Abay et al. 2018; Yeboah and Jayne, 2018; Van den Broeck and Kilic, 2018; Kafle, Benfica and Paliwal, 2019). Almost all of this evidence concerns Africa, as it is based on the high-quality household data provided by Living Standards Measurement Study (LSMS) on this continent. The following discussion extends the scope of this evidence by incorporating data on rural youth in APR and LAC for purposes of interregional comparisons.

Patterns of youth engagement in different sectors along the rural-urban gradient vary across regions. These patterns depend as much on the structural transformation levels of countries as on their AFS transition stages (see chapter 6). In much of Africa, the AFSs are in the intermediate stages of the shift out of a traditional system and towards a transitional system. Most of APR is firmly in the transitional stage and is edging towards a modern stage, while most of LAC has begun a broad transition to the modern stage (Reardon et al., 2018). AFS transition stages differ within regions and even within countries. While, in some states of India, the AFS can be considered to have reached a modern stage, in others it is still in a traditional stage (Reardon et al., 2018). Effective policy design therefore, requires an understanding of the sectors in which young people work, both in and out of the AFS, in each setting in order to be able to identify sectors that have the potential for growth and for expanding employment opportunities for rural youth.

A clearer picture of how youth engagement varies along the rural-urban gradient is provided by data from 128,227 individuals representing around 134 million rural young people in 12 countries spread over 3 regions (SSA, APR and LAC) (annex A). Although these data are not, strictly speaking, representative of these regions, they provide the most comprehensive information available to date on rural youth activity that lend themselves to spatial analysis. While young people may aspire to leave the agricultural sector but are still employed in it because they lack other opportunities, it is important to understand the sectors in which they actually work in order to distil common trends that can inform policies and investments.

FIGURE 9.6 plots the distribution of working hours (measured in full-time equivalents (FTEs) (see **BOX 2.7**) of rural, semi-rural and peri-urban youth among six sectoral and functional employment categories: own/family farm, on-farm wage, non-farm wage in the AFS, non-farm wage out of the AFS, AFS enterprise and non-AFS enterprise. Rural youth spend 50 per cent or more of all their working time on farming (for their own account or for wages) in all regions. The share of work on own account or on the family farm is highest in SSA at over 60 per cent, followed by APR with just under 60 per cent. Rural youth in LAC work relatively more as wage earners on other people's farms. Farming becomes a less important activity for rural youth as population density

FIGURE 9.6 Rural youth spend 50 per cent or more of all their working time on farming

Share of total rural youth FTE in each activity along the rural-urban gradient, by region

Source: Authors' calculations based on 12 socio-economic household surveys in Asia, Latin America and the Caribbean, and sub-Saharan Africa.

increases, and the importance of non-farm wage and enterprise work increases. The decline in the importance of farming along the rural-urban gradient is the most striking in APR, whereas in SSA countries, the differences between semi-rural and peri-urban areas appear minimal, with youth still spending 40 per cent of their time on farmwork.

The non-AFS sector has become increasingly important for rural youth in more densely populated areas of LAC and APR, but even in SSA it accounts for around 30 per cent of total youth employment. The share of employment provided by the non-AFS sector also reflects the structural transformation levels of the countries covered in the dataset: all three countries in LAC (Mexico, Peru and Nicaragua) are in the highly transformed group; the APR sample includes two countries that have low levels of structural transformation (Bangladesh and Nepal); and almost all the countries in SSA that are included in the data have low structural and agricultural transformation levels (Ethiopia, Malawi, Tanzania and Uganda).

One of the most important youth-specific constraints on productive employment in rural areas, as discussed in chapter 1, is access to land. **The rural youth population's access to land varies across regions and exhibits significant gender differences.** Several changes, including rapid shifts in landholding patterns, particularly in Africa, are dramatically altering the situation for rural youth with regard to their access to land. Rising rural population densities are making land far more scarce. Longer lifespans mean that the age at which rural youth inherit land from their parents is rising, with implications for how and when rural youth make the transition to independent livelihoods. Together, these factors are making it much harder for young people to become landowners by the

time they want to be starting their families. Although rental markets are making up for this to some extent, with steep increases being observed in recent years in the proportion of rural households – especially ones headed by young people – that are renting-in land, land markets (both for rentals and purchase) are far from addressing all the constraints that rural youth face, and specific interventions are needed in order to do so. Land ownership rates among rural youth are highest in Central and South Asia. In South Asia, 40 per cent of rural young men own land – twice as many as the number of young women who own any land. In other regions, ownership rates are below 20 per cent, with rates below 10 per cent in LAC (Doss et al., 2018).

As discussed earlier in this report, the challenge of achieving the transformation of rural areas in a way that is inclusive of rural youth can best be met by incorporating youth policies into broader development policies while at the same time devoting attention to youth-specific constraints, which vary across the rural opportunity space. The discussion has also covered the overall dynamics of change that are affecting the rural development landscape, such as the digital revolution, the AFS transformation and climate change, which may close off some opportunities but open up new ones for rural youth. The existing narrative on rural youth in each region depends on a combination of these factors, and it is not always evidence-based. The following section discusses a number of salient points for each region based on existing evidence with a view to broadening the rural youth narrative across and within regions.

Salient region-specific challenges for the inclusion of rural youth can inform policies and investments

Sub-Saharan Africa (SSA)

The existing narrative on African youth is primarily focused on their unemployment and poverty status. Thus, a number of youth policies and strategies have been developed by African countries which focus on creating job opportunities for young people and reducing youth unemployment (Mabiso and Benfica, 2018). Most of these policies and strategies aim to address this issue by placing young people in jobs (not necessarily creating new jobs) or engaging youth in entrepreneurship (UNDP, 2014; 2016a). Evidence from labour force and school-to-work transition surveys suggests that unemployment rates are not as high as the narrative tends to indicate, however (ILO, 2017). For the most part, youth who are in the labour force are engaged in some sort of work, although they are likely to be underemployed and/or in low-paying jobs, often in the farm sector.

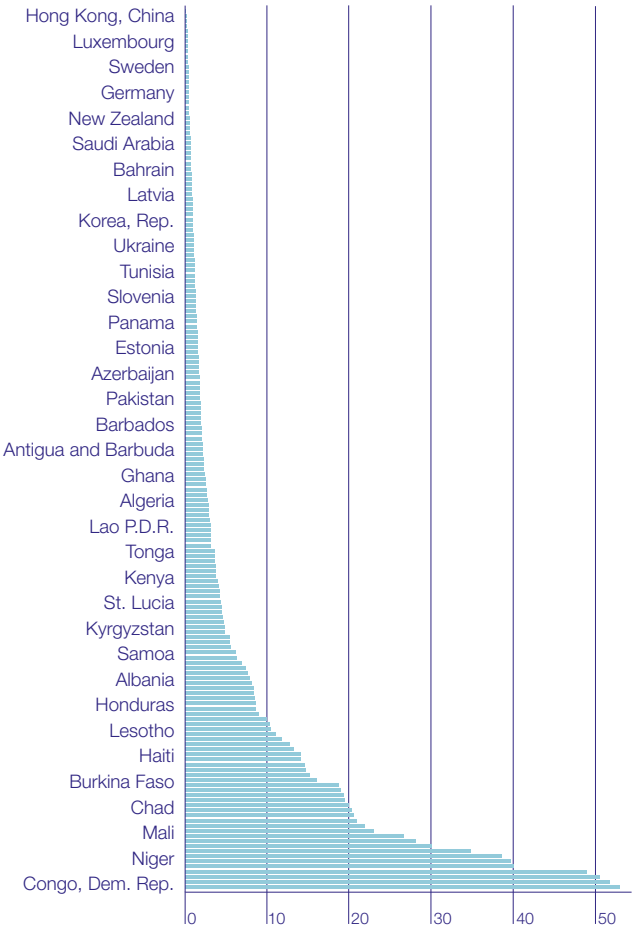
The unemployment narrative goes hand in hand with the contention that African youth are leaving agriculture because it is unattractive; in this case as well, the narrative is not supported by emerging evidence. Owing to the increasing availability of nationally representative datasets that include detailed activity information at the individual level, more and more evidence is becoming available that indicates that the majority of rural youth are employed in agriculture, often farming land owned by their parents or relatives, but also in the wider AFS (Yeboah and Jayne, 2018; Abay et al., 2018; Kafle, Benfica and Paliwal, 2019). The absolute numbers employed in agriculture are in fact predicted to rise, though the relative share of this sector of employment will be declining over time (Davis et al., 2017). Investments that will improve agricultural productivity in sustainable ways that can reduce underemployment should therefore be at the forefront of youth-centred rural development efforts in the continent.

Youth entrepreneurship, on the other hand, has been attracting relatively more attention as a means of creating employment in spite of evidence that the mean and median ages of entrepreneurs in Africa are much higher (certainly above 30 years and even above 40 years in most developed countries) than the upper age limit used to define the youth population. Most successful enterprises are started by older people, owing in part to the fact that older persons have had time to amass experience, skills and assets that are not yet within young people's reach, and most of these qualities cannot be imparted through entrepreneurship training. It may, therefore, be more prudent to invest in creating enterprises that employ young people, rather than putting the emphasis on rural youth entrepreneurship as a specific area of investment (Mabiso and Benfica, 2018).

The importance of investments in improving connectivity has been underlined in the earlier discussion on the rural opportunity space: almost 50 per cent of youth in SSA live in the most remote areas with the least commercialization potential. Improving the connections between rural and urban areas through investments in semi-rural and peri-urban areas is imperative for rural development. In this case, connectivity includes both physical and digital connectivity, which complement one another in bringing about improvements in productivity. Digital connectivity has attracted more attention in the discourse surrounding youth, as young people are thought to be more adept in leveraging the potential of ICTs for productive investments.

FIGURE 9.7 The annual cost of operating a mobile cellular phone is prohibitively high in many countries

Percentages of GNI per capita in 2014



Notes: The World Bank Atlas method was used for the preparation of this figure.
GNI: gross national income.
Source: Authors.

There is not a great deal of evidence to support this claim regarding ICTs, however, and what little evidence there is mainly points to the importance of mobile cellular phones in enhancing connectivity in Africa. Aker and Mbiti (2010) provide a comprehensive exposition on the channels through which mobile cellular phones could lead to economic development and highlight the potential economic benefits in the form of reduced communication costs, improved market access and information, increased access to agricultural extension services and potentially improved job market outcomes. The actual impacts of mobile phones on economic outcomes, in general, and for rural youth, in particular, however, have a limited evidence base; this is a gap in the research which remains to be filled (Aker, 2018). Nonetheless, mobile phones remain one of the most ubiquitous tools for connectivity in rural Africa, and some countries have demonstrated how their potential for financial inclusion can be leveraged (see chapter 8). An important precondition in order for rural youth to benefit from them is affordability, however. Operating costs in most African countries are very high due to a lack of competition, and this can make the use of mobile phones prohibitive for most rural youth, especially in the WCA subregion (see **FIGURE 9.7** and **TABLE 9.3**). Furthermore, the cost

TABLE 9.3 The annual cost of operating a cellular phone in SSA, in general, and in WCA, in particular, is the highest in the world. (Percentages of GNI per capita)

Geographic region	Number of countries	Mean	Standard deviation	Minimum	Maximum
West Africa	15	20.80	12.19	2.45	39.99
Central Africa	9	21.76	19.98	1.99	52.76
North Africa	5	5.36	6.09	1.20	16.00
East Africa	10	12.69	14.96	0.77	50.45
Southern Africa	10	13.37	15.46	1.53	48.86
Africa (total)	49	16.23	15.12	0.77	52.76
Outside of Africa	124	2.78	3.57	0.10	20.54

Source: Authors' calculations based on data from the International Telecommunications Union (ITU) (2017).

of investing in mobile infrastructure is much higher in sparsely populated areas, and investments to bring down these costs in rural and semi-rual areas have so far not attracted the attention they deserve within the framework of the rural youth discourse.

Lastly, the fundamental issue of learning, which encompasses both cognitive and non-cognitive skills, deserves more attention in the discourse on rural African youth. As documented in **FIGURE 9.8** in the following section, returns to schooling are largest in SSA in a global comparison due to its lower skill level overall (World Bank, 2018). This situation is also associated with a high demand for more skilled youth and a large skill mismatch in the region. This issue is critical, especially in regard to the inclusion of young rural women in the agenda for both learning and employment, as they hold the key to speeding up the demographic transition in the continent, which is lagging behind all the other regions of the world.

High fertility rates in SSA are one of the unique challenges faced by this region. **FIGURE 3.5** shows that young women in SSA want to have more children than their peers in other regions, and this is especially true in rural areas. Given that fertility ideals foreshadow future trends, this evidence points to continued gaps in the future between regions and sectors and thus underlines the need for greater investments in the health sector, especially in rural areas, to reduce infant and child mortality and improve family planning options. Even more importantly, the successful incorporation of young women into higher education, as well as the labour force, tends to provide more powerful incentives for lowering fertility rates (Martin, 1995; Bongaarts, 2010; Keats, 2014; Cannonier and Mocan, 2014; Lavy and Zablotsky, 2011).

Recent evidence from a randomized control trial in Uganda shows that multifaceted training interventions that take place outside of school (in community-level clubs) and focus on both life skills and vocational training can tremendously improve outcomes for young women (Bandiera et al., 2018). The Empowerment and Livelihood for Adolescents (ELA) intervention (see **BOX 3.1**) is an after-school programme for adolescent girls that provides vocational and life-skills training. ELA increased the likelihood of adolescent girls engaging in income-generating activities by 48 per cent and reduced teenage pregnancy by 34 per cent, while also reducing the likelihood of entering into early marriage or cohabitation by 62 per cent – and it did all this at a cost of $100 per participant.

Near East, North Africa, Europe and Central Asia (NEN)

Countries in the NEN region had the largest average proportions of youth in their populations until recently, but were then overtaken by SSA in this respect. Although the proportion of young people has been declining since 2005 in both the NENA and CEN subregions, with those shares still at 18 per cent and 17 per cent in 2015, respectively, the region has not benefited from the demographic dividend to any great extent. This is evident in the region's youth unemployment rates, which are among the highest in the world (around 30 per cent compared to 13 per cent globally) (ILO, 2017).

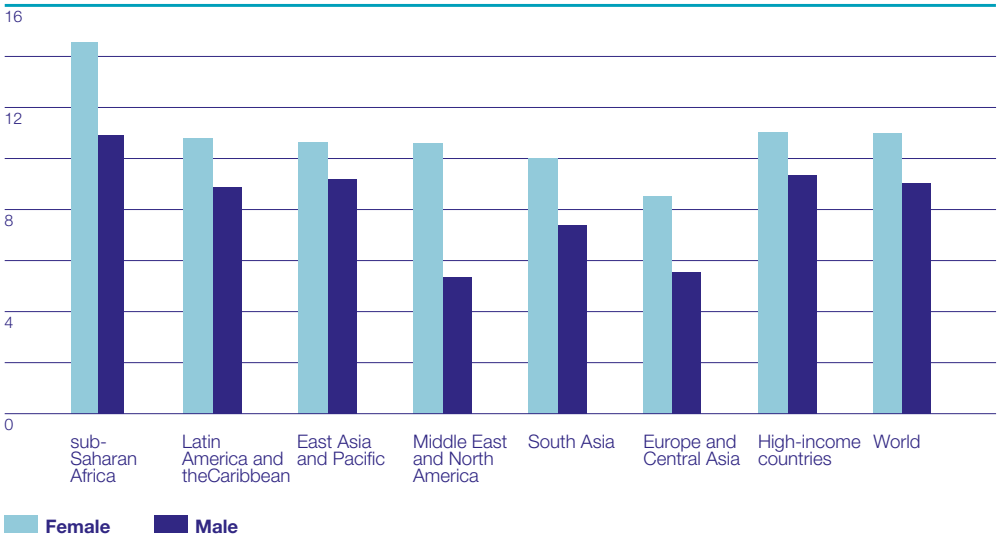
The two NEN subregions have very distinct histories, although those histories have similar implications for their economic structures and challenges. Many NENA countries witnessed the emergence of authoritarian regimes during the post-colonial (Ottoman) period, which contributed to the establishment of a government-led development model and a more widespread "authoritarian bargain", whereby citizens gave up any effective form of political participation in exchange for public jobs, benefits and services (Desai, Olofsgard and Yousef, 2009). In CEN, on the other hand, in the post-Soviet era the countries embarked on the lengthy process of modernizing their economies, societies and institutions, although most of them are still struggling to overcome decades of mismanagement and misaligned economic incentives (Kabbani, 2018). Consequently, economic opportunities are scarce in most of the countries of the NEN region owing to an overreliance on public sector employment (World Bank, 2004; Assaad, 2014), overregulation of the private sector and a weak business environment due to corruption and crony capitalism (World Bank, 2009; EBRD et al., 2016).

The implications for rural youth are manifested in high unemployment rates, which are ultimately linked to weak job creation throughout the economy. The public sector's share of total employment remains relatively large and has crowded out private job creation (ILO, 2010). Most young people prefer to queue up for public sector jobs, where they are under very little pressure to be productive, and this is pulling down productivity in the private sector as well (Chaaban, 2013). In such economies, education has little impact on growth, since improved cognitive skills are not used in ways that foster productivity (Pritchett, 2001).

This brings the discussion to the education systems in the NEN region and the critical interventions that are needed to improve young people's economic outcomes, even though significant progress has been made in the region in improving primary school completion rates over the past century (Kabbani, 2018). While both NENA and CEN have almost universal primary completion rates, secondary school completion rates are less than 50 per cent everywhere except Jordan and the State of Palestine. Individuals and households do not have incentives to invest in education in countries where returns to schooling are low. **FIGURE 9.8** shows that both subregions of NEN (designated as the Middle East and North Africa and as Europe and Central Asia in the figure) rank the lowest on this indicator in the world, as they have the lowest percentage increase in wages associated with each additional year of schooling – and this is especially the case for males (World Bank, 2018). This finding may have as much to do with a poor-quality education that fails to provide the necessary skills as it does to the lack of an active economy with strong job creation potential. Since the former can improve young people's economic outcomes only if the latter is in place, the main focus of youth employment policies should be on supporting a business climate that would encourage the development and growth of new enterprises, especially in rural areas, that are linked to agricultural value chains (Kabbani, 2018).

FIGURE 9.8 The returns to schooling in NEN are among the lowest in the world, especially in the case of young men in the Middle East and North Africa

Median percentage increase associated with each additional year schooling, by country group and gender

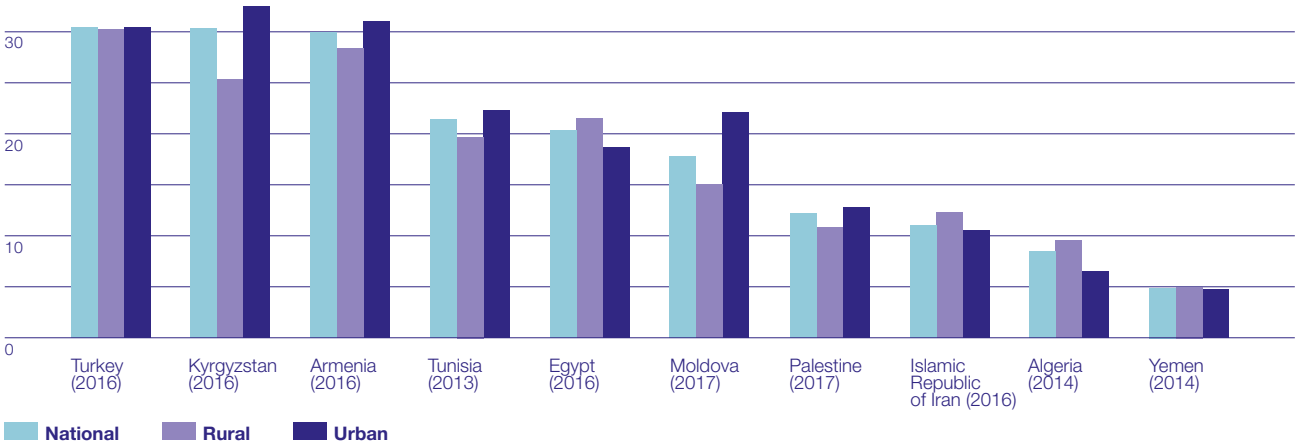


Notes: The designated regions do not include high-income countries.
Source: World Development Report 2018 and data from Montenegro and Patrinos (2017). Data available at: http://bit.do.WDR2018-Fig.1-1.

Although the above figure shows that the returns to education are higher for females in the region and that their schooling levels are on a par with or better than those of males, this has not translated into improved economic outcomes for females. This is partly attributable to cultural and social norms that restrict women's economic, social and political participation. These restrictions undermine young women's potentials and curtail their future prospects (UNDP, 2016b). Countries in the NENA subregion have the lowest labour force participation rate for young women in the world, at 15 per cent as compared to the world average of 35 per cent (see **FIGURE 9.9**) (Kabbani, 2018). The

FIGURE 9.9 The NENA subregion has the lowest labour force participation rate for young women in the world

Labor force participation rates for young women



Source: Kabbani (2018) based on ILO (2017).

corresponding rate is around 30 per cent in countries in the CEN subregion, so this issue is a particularly acute one for the NENA subregion.

Given the influential nature of cultural norms and the difficulty of changing them, locally relevant examples of interventions are needed. One such example is the Ishraq ("Enlightenment") programme in Egypt. Ishraq, like ELA, is a multidimensional initiative that has been working to improve educational, health and social opportunities for thousands of adolescent girls in rural Upper Egypt since 2001. It has improved literacy levels, fostered the development of life skills, increased self-confidence and led to greater mobility and community involvement for its participants. Crucially, the programme engaged successfully with parents, brothers and community leaders, given that the integration of the "gatekeepers" of young girls in conservative societies is an essential element of success for such programmes (Brady et al., 2007).

While such programmes can help young women to gain greater agency within the existing frameworks for young people's civic participation, there is an overall need to improve that form of participation in the NENA subregion. Countries in this subregion have made significant improvements in the environment for young people's civic participation, especially since the Arab Spring, but it remains a domain dominated by wealthy, urban educated youth. Civic engagement programmes need to make an effort to reach young people, and particularly young women, in rural areas to help to give these marginalized groups greater agency (Iancovichina, 2017).

Finally, the discourse on youth in the NEN region has been intertwined with the discourse on conflict and on young people's potential involvement in it. The evidence suggests that, rather than being instigators of conflict, young people are affected more often as victims of conflicts, which have long-lasting negative consequences on their levels of education and welfare (Baliki et al., 2018). The region has the biggest refugee population in relative terms (mostly in Jordan and Lebanon), with disproportionately large shares of children and young people within that population (Verme et al., 2015). While existing welfare programmes seem to be effective in addressing poverty in the short run, they are not sustainable and cannot improve the future prospects for these children and young people. Classic development policies on education, skills and labour can only be effective to the extent that the set of economic opportunities that are available to refugees expands (Verme et al., 2015).

Latin America and the Caribbean (LAC)

Most official statistics show LAC to be far more urbanized than other regions of the world (at around 80 per cent), but the picture looks very different when the inconsistencies in official definitions are addressed using spatially explicit data and methods (Roberts et al., 2017). **FIGURE 9.4** shows that, using the globally comparable population density criteria that go beyond the binary rural-urban definition, more than 70 per cent of all youth in LAC live in non-urban areas, out of which 30-40 per cent live in semi-rural and peri-urban areas. These are precisely the areas in which rural youth are increasingly looking for livelihood opportunities as the rural transformation of the region progresses, and this stylized fact needs to be borne in mind when discussing rural youth inclusion in LAC.

One of the unique characteristics of the discourse on youth in LAC is its emphasis on the challenges faced by indigenous youth, in general, and those in rural areas, in particular. In all countries of the region, the indigenous population has a larger share of young people, driven by slow pace of the demographic transition, and indigenous youth are poorer than non-indigenous youth (ECLAC, 2008). There is also

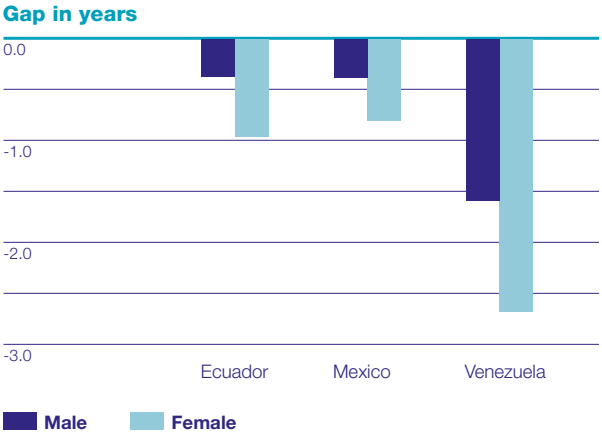
an educational attainment gap between these two groups, which is one of the reasons why the indigenous population may have worse economic outcomes. Because data that are disaggregated by indigenous status and rurality are hard to come by for all countries in the region, **FIGURE 9.10** shows the differences between the educational attainment of indigenous and non-indigenous youth in three countries. The gap is wider for women in all countries and is the widest in Venezuela, where indigenous women have 2.6 years less education, on average, than their non-indigenous peers.

Formal education systems are failing indigenous youth not only through their exclusion, as measured by the number of years of schooling completed, but also by providing a type of education that is not tailored to their specific needs and languages (Trucco and Ullmann, 2015). Although virtually all countries in the region have special programmes for intercultural bilingual education, they are poorly designed, not well targeted and scarcely implemented (World Bank, 2015). The consistently high poverty rate among rural indigenous populations is probably one of many implications of the shortcomings of these education systems, and this is therefore an important area for action if rural transformation is to be inclusive of indigenous youth in the region.

The discussion regarding indigenous youth is sometimes intertwined with the discussion around rural youth migration, as the main reasons for the exclusion of indigenous youth overlap with the drivers of rural out-migration in general. These factors include a lack of education and employment opportunities in rural areas and a lack of public services, which together create push factors for rural youth (ECLAC, 2008). Rigorous evidence on the drivers of rural youth migration in LAC, however, is scarce (de Brauw, 2018). The limited evidence that exists points to differences in educational opportunities between rural and urban areas as an important determinant of rural youth migration (Heckert, 2015; Valentine et al., 2017). Unlike the situation in other regions, young women in LAC are migrating out of rural areas at disproportionately higher rates (see **FIGURE 9.11** and Giuskin, Yanes and del Castillo, 2018), with the result that relatively more young men reside in rural areas in this region (Stecklov and Menashe-Oren, 2018).

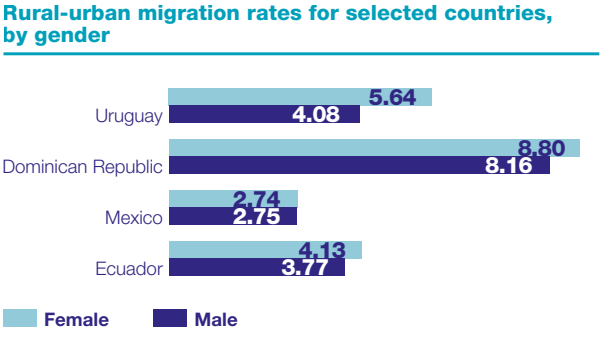
These patterns set the region apart from other regions, where more young males than young females migrate; this is indicative of higher levels of empowerment for young women in the region when it comes to mobility. Nonetheless, while female labour force participation has improved in LAC in recent decades, it still lags behind that of males, making the improved inclusion of women in the labour force one of the general rural development policies that needs to incorporate a youth focus.

FIGURE 9.10 The educational attainment gap between indigenous and non-indigenous youth leads to persistent gaps in economic potential



Source: Giuskin, Yanes and del Castillo (2018) based on 2010 census data and *The Socio-Demographic System of Indicators for Indigenous Peoples* (SISPPI) – Latin American and Caribbean Demographic Centre (CELADE) – Population Division of ECLAC.

FIGURE 9.11 Rural-urban migration rates for female youth exceed the rates for male youth in LAC



Source: Giuskin, Yanes and del Castillo (2018) based on *"Microdatos" Censo de Población y Vivienda 2010* and population projections, *Datosmacro*, Ecuador; *Encuesta Intercensal 2015* and *Tablas Dinámicas, Censo de Población y Vivienda 2010*, Mexico; *Muestra Censo de Población y Vivienda, 2010* and population projections 2000-2030, Dominican Republic; and *Censo de Población y Vivienda 2011* (REDATAM) and population projections 1950-2050, Uruguay.

Young males, on the other hand, are more affected by violent crime in LAC, which contains seven of the most violent countries in the world (Giuskin, Yanes and del Castillo, 2018). The main reasons for the increasing levels of violence include economic and social exclusion, inequality, armed conflict, drug trafficking and the loss of a sense of belonging (Trucco and Ullmann, 2015). Although most of the young victims of violent crime live in urban areas, addressing the issue is of importance for any youth inclusion agenda – not least because of the increasing connectivity between rural and urban areas. One of the main pillars of the youth inclusion agenda outlined in this report is agency, which plays an important role in reducing the motivations for violence. Although the region has made progress in promoting civic participation, most of the existing initiatives have an urban bias and are susceptible to elite capture (Trivelli et al., 2018). Establishing sustainable connections between youth along the rural-urban gradient, harnessing ICTs for use in informing youth and in consulting and collaborating with them, and ensuring political receptiveness are among the common characteristics of successful rural youth participation programmes (Trivelli et al., 2018).

Lastly, the LAC region has been at the forefront of social protection (conditional and unconditional cash transfer) programmes for the last three decades, and these programmes have proved to be very effective in improving the education and health outcomes of children of poor families (Molina-Millan et al., 2016; Morris, 2010). These programmes also have succeeded in improving production and other outcomes such as food security and dietary diversity (Davis 2017; Salazar et al., 2015). Recent evidence also shows that they have been effective in some cases in addressing indigenous exclusion issues that have overshadowed the youth discourse in the region (Lopez-Calva and Patrinos 2015; Quiñones and Roy 2016).

The long-term effects of social protection programmes on the economic outcomes of rural youth are only recently being documented, as these programmes have primarily focused on children, and their life-cycle effects are only now being studied. Evidence shows that the short-term effects do not uniformly translate into longer-term improvements in welfare. While some research points to positive impacts on long-term earnings, school attainment or fertility levels, other studies have found no long-lasting effects (Barham et al. 2017; Baird, McIntosh and Özler, 2016). Promising long-term effects include increased school attainment and decreased fertility for young women, which is an element that should be incorporated into youth-centred rural development programmes. Given the existence of strong political pressure for the expansion of such programmes, care should be taken to draw upon the lessons learned from the large body of rigorous evidence on the topic in order to ensure that these programmes benefit today's children, as well as tomorrow's young people and adults.

Asia and the Pacific (APR)

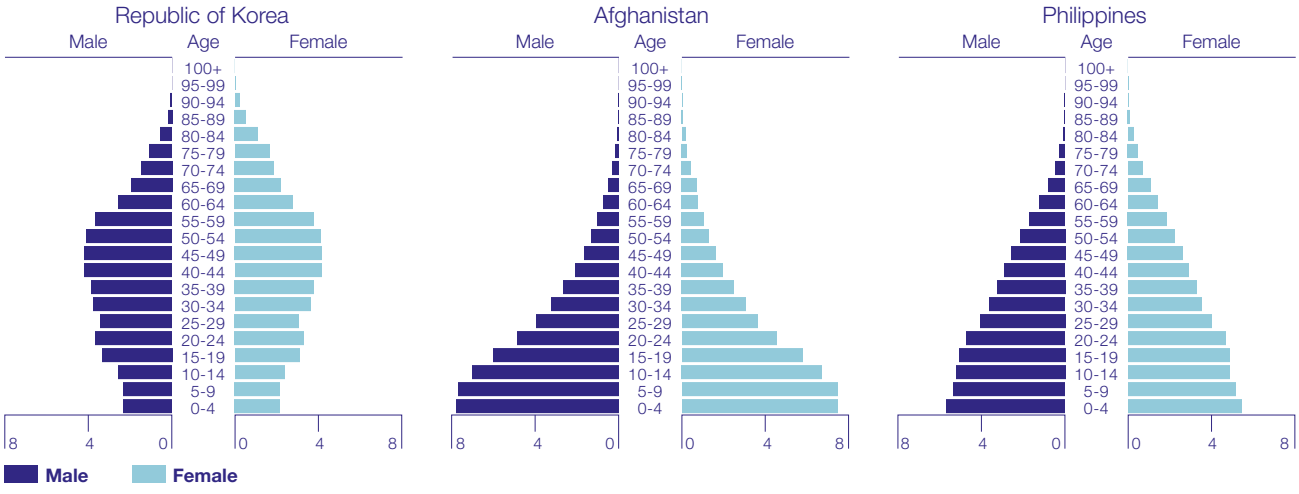
The APR region can be thought of as the centre of *today's* rural youth challenge, as it hosts more than 60 per cent of the world's rural youth. This dominance in terms of the region's share of the global youth population, however, needs to be put in context, as it is driven by the sheer size of the populations in 7 out of the 10 most populous low- and middle-income countries in the world. At the subregional level, EA has one of the world's smallest average youth shares, at 5 per cent, and SA has one of the highest, at 12 per cent, which is second only to the ESA subregion of SSA. Thanks to its advanced demographic transition, APR as a whole will see the magnitude of its youth challenge slowly diminish in the coming decades, as discussed above (see **FIGURE 9.1**).

APR has the most distinct subregional differences in terms of population age structures, and very different types of interventions are therefore needed to ensure that the rural transformation process is inclusive of rural youth (see **FIGURE 9.12**). On the one hand, most countries in EA, such as the Republic of Korea (see **BOX 5.1**) have advanced very rapidly in their demographic transitions and have made the right kinds of investments; as a result, they were able to reap a demographic dividend in terms of rapid economic transformation (e.g. "the Asian Tigers"). On the other hand, SA includes Afghanistan, which is on the list of the 30 countries with the highest total fertility rates in the world,[50] and SEA contains numerous countries, such as the Philippines, that have made some progress in bringing down their fertility rates but will still see a few more decades during which the relative size of the youth population will be increasing slightly before beginning to decrease. It is the latter two types of countries that are leading the rural youth discourse in the region, which is dominated by the issue of persistent (and in some cases increasing) youth unemployment (ILO, 2017).

The challenge of youth unemployment in SA and SEA can be better understood when considered in absolute terms. Though unemployment rates are steady (around 11 per cent) or falling due to rapid economic growth in SA, the challenge will remain a pressing one, as almost 14 million economically active young people were estimated to be jobless in 2017, representing around 20 per cent of all unemployed youth worldwide. Even for those who work, the incidence of poverty is higher than for adults and is the second-highest in the world, after SSA (ILO, 2017). SEA has witnessed the second-largest increase in the youth unemployment rate in the last few years. These two subregions stand out as having the highest ratios of youth-to-adult unemployment rates in the world (see

FIGURE 9.12 APR subregions contain countries at very different stages of the demographic transition

2015 population pyramids

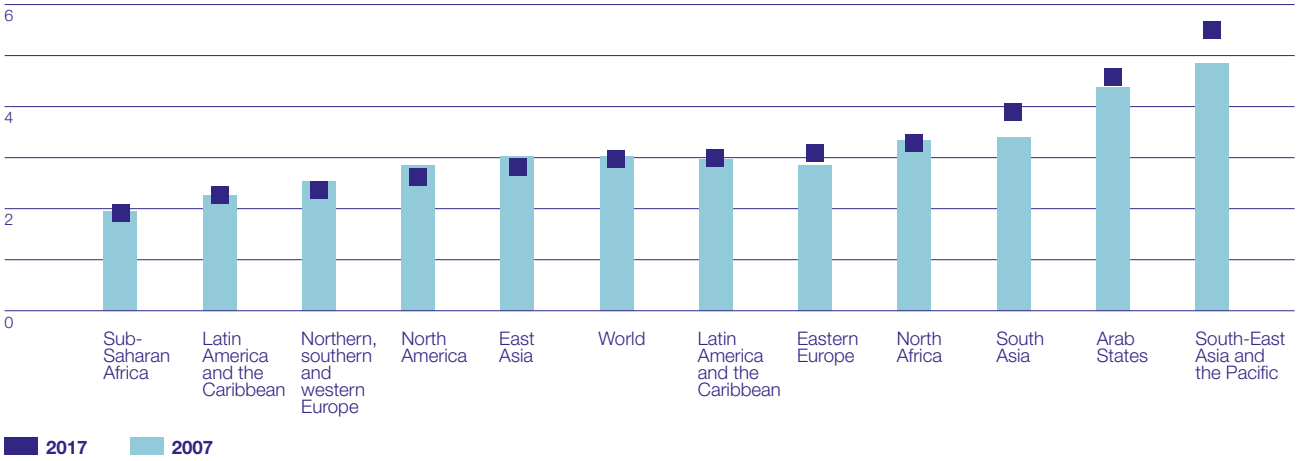


Source: https://www.populationpyramid.net/.

50 http://worldpopulationreview.com/countries/total-fertility-rate/.

FIGURE 9.13 SA and SEA have the highest ratios of youth-to-adult unemployment rates in the world

Youth-to-adult unemployment rate ratios in 2007 and 2017, by region



Source: ILO 2017, based on International Labour Organization (ILO), *Trends Econometric Models, 2017.*

FIGURE 9.13). Given that around 85 per cent of youth employment in rural areas of APR is informal, however, these numbers likely reflect the situation of urban and peri-urban youth rather than rural youth (Briones, 2018).

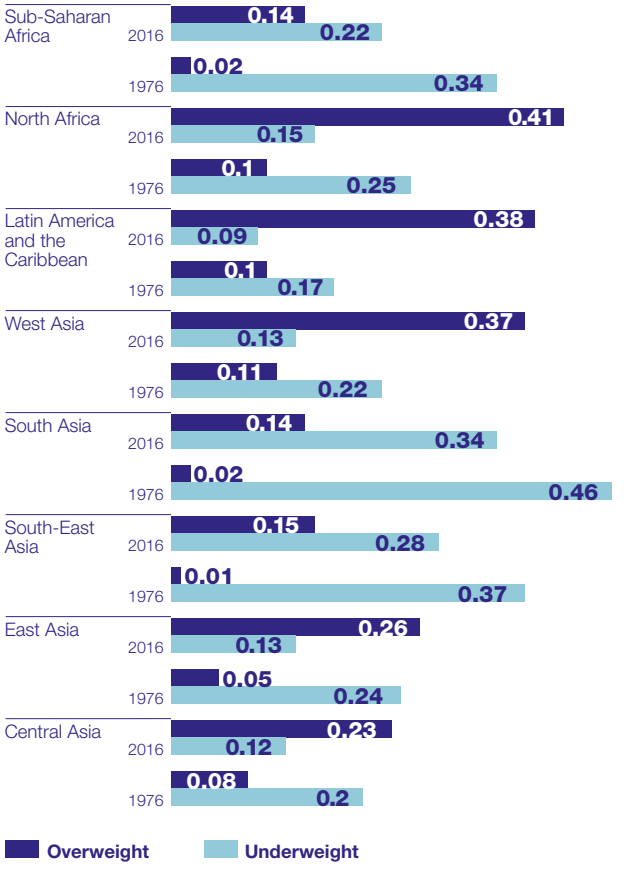
Rural youth in APR (especially in SA and SEA) still spend about 50 per cent of their time working in agriculture in spite of the advanced stages of the AFS transformation found there (see Elder et al., 2015, and **FIGURE 9.6**). This can be linked to the fact that dynamic rural transformations and the AFS transition tend to happen in the vicinity of small towns and cities, while in areas where rural-urban connections remain weak, low-productivity agriculture and low-paying forms of non-farm rural employment are still the main employment options (Reardon and Timmer, 2014; Vos, 2018). In EA, which is the subregion that has made the fastest progress in terms of its structural and rural transformation, on the other hand, youth involvement in agriculture has declined significantly. Political and institutional reforms in EA that have contributed to its successful transformation can provide lessons for the rest of the region (within the context of the dynamics of change discussed in this report). The East Asian narrative on the challenge of youth employment is intertwined with the narrative on ageing societies, and a completely different set of investments is therefore called for in order to enable the subregion to reap the second demographic dividend.

One of the interesting contrasts within APR is related to the nutritional implications for rural youth of differences in the level and speed of rural transformation. While structural change has brought down the levels of poverty and undernourishment dramatically in APR, the incidence of underweight youth is still stubbornly high in SA and SEA, with more than one third of the youth population (chiefly in rural areas) still being underweight (see **FIGURE 9.14**). The dietary and food-system changes that are unfolding have brought new malnutrition challenges, as overweight and obesity are on the rise (Vos, 2018). The severity of this problem has increased the most in EA, in tandem with the subregion's advanced rural transformation. Investments in rural transformation should be specifically designed to address this double nutrition challenge for rural youth in the subregion.

Lastly, a discussion on rural youth inclusion in APR would be incomplete without touching upon climate change. Although all regions are exposed to the impacts of climate change (both slow-onset effects and extreme events) to varying degrees, APR is the most vulnerable to extreme weather events (IPCC, 2014). The Pacific Island States, in particular, face daunting challenges, as the future of the workforce there depends critically on the impacts of climate change. The majority of income and employment sources in those countries are in sectors that are highly vulnerable to climate change, such as agriculture, fisheries and tourism (ADB-ILO, 2017). As young people and women are disproportionately represented in these sectors, and most of these workers are employed informally, they stand to be affected to an even greater extent (ILO, 2008). The Pacific Island States have been implementing a number of seasonal agricultural worker programmes at the national level targeting rural youth, especially in areas that are highly vulnerable to climate shocks, but problems with targeting and skill gaps have made it difficult to scale up these initiatives, and skills training therefore needs to be integrated into such programmes. Green infrastructure and sustainable tourism are also among the sectors that these countries have identified in their national climate policies as priority areas for investment. These policies also need to incorporate a rural youth-centred approach to address the vulnerabilities of rural youth (ADB-ILO, 2017).

FIGURE 9.14 The incidence of underweight among young people remains stubbornly high in SA and SEA, while overweight has increased significantly

Percentage point changes in the incidence of underweight and overweight for youth, by region



Source: Kadiyala et al. (2018) based on NCD-RisC data.

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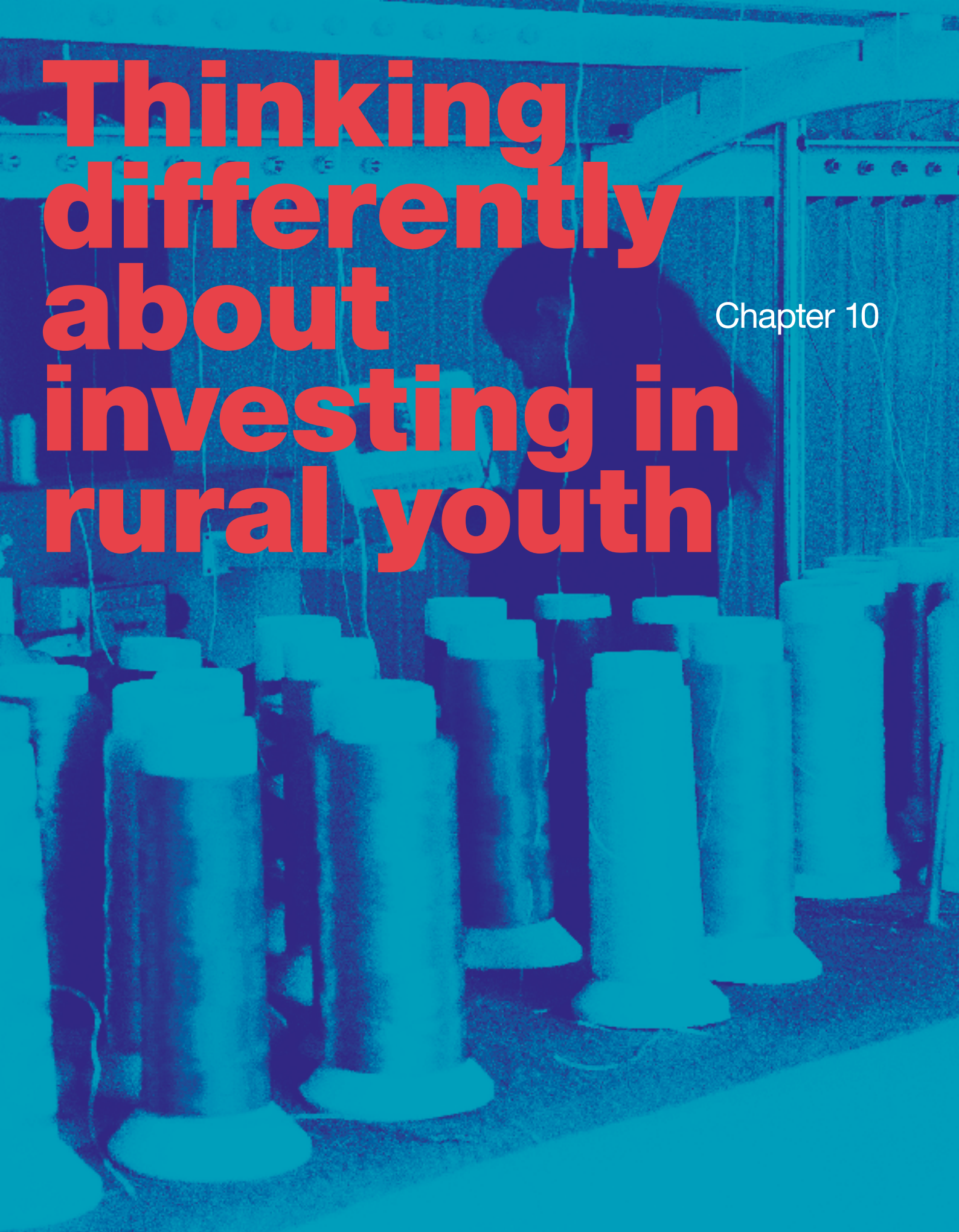


Thinking differently about investing in rural youth

Chapter 10

There are many reasons to think differently about investing in today's rural youth. The dynamics of change on multiple fronts – including the digital revolution, demographic transition and climate change – are shaping rural development everywhere. In parallel, the levels of structural and rural transformation of countries and of the rural opportunity spaces within those countries are creating (or constraining) opportunities for rural youth to become productive, connected and in charge of their own futures.

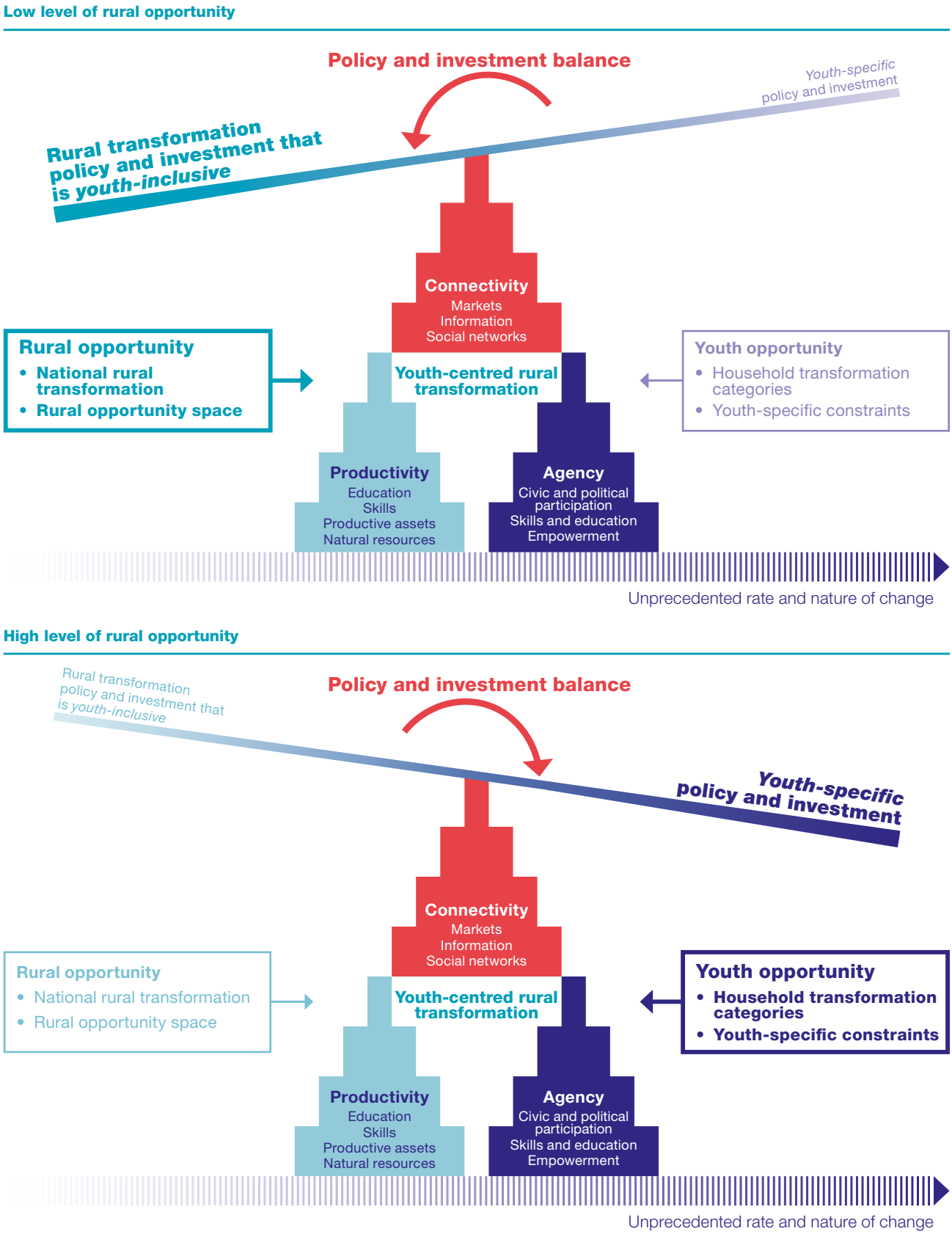
Neither rural development policies and investments nor youth-specific interventions can be effective in ensuring the inclusion of the young population unless they are considered as a part of broader development efforts. An effective approach to rural youth policy and investment is therefore one that *strikes the right balance between creating broader rural opportunities and fostering youth-specific ones*.

An effective rural youth policy and investment agenda must strike the right balance between broad rural development and youth-specific investments

The right balance between investments that promote broad rural opportunity and those that attempt to focus particularly on youth opportunity will depend on the stages reached by the different transformation processes in the places where rural youth live (see **FIGURE 10.1**). In areas with low levels of transformation and limited overall rural opportunities (e.g. those in locations subject to severe challenges in the rural opportunity space (ROS) and in most areas in the least transformed countries) (see chapter 2), investing in youth-specific programmes such as technical and vocational education courses that do not address broader issues is unlikely to deliver sustained results. Therefore, in rural locations where there are few opportunities because of low levels of rural transformation or limited commercialization potential, investments need to focus primarily on promoting a broad-ranging rural transformation process. This entails efforts of a general scope aimed at improving productivity, connectivity and agency among the rural population as a whole in order to foster rural transformation and expand the opportunities for all. In these contexts, investments should focus on ensuring *rural youth inclusion* in the broader rural transformation effort rather than promoting youth-specific actions. For example, an investment strategy for enhancing the profitability of farming in a rural area with a high agroecological potential but poor market links should seek to ensure that young people are included in this effort and benefit from it.

Alternatively, in places where broader rural opportunities exist because there is already a high level of rural transformation and the ROS presents diverse and remunerative opportunities, policies and investments may seek to address individual- and household-specific constraints, such as poor access to credit or limited technical skills. Investing in broader rural development policies remains important in these contexts to ensure ongoing transformation, but *youth-specific investments* can be undertaken to complement those

FIGURE 10.1 Balancing investments that promote widespread rural opportunity and those that focus specifically on youth opportunity



Source: Authors.

wider efforts and help to overcome specific constraints that are hindering the inclusion of the young population.

In summary, creating opportunities for rural youth requires policies and investments that promote rural development, in general, and rural youth inclusion, in particular. The relative emphasis on one or the other type of intervention will depend on the opportunities existing in a given space. When opportunities are scarce for everyone – including youth – the focus should be on broadly expanding opportunities. This means that steps should be taken to foster rural transformation through investments in productivity and connectivity and to undertake investments that will enhance the inclusion and agency of youth within the framework of those transformations. In more highly transformed countries and spaces, where more opportunities may exist, policies and investments should focus on maintaining and expanding those opportunities while at the same time tackling individual- and household-specific constraints that may hinder rural youth from benefiting from those transformations.

What does "broad rural development and youth-specific policies and investments" mean?

There is very limited evidence on the effects that targeted programmes have on rural youth. The list of initiatives shown in **TABLE 10.1** is drawn from several different publications on youth that give examples of investments and programmes focused on broad rural development and on rural youth specifically (Filmer and Fox, 2014; AfDB, 2016; Elder et. al., 2016; OECD, 2018; Fox and Kaul, 2018). The list is not meant to be exhaustive but does reflect a wide range of the types of programmes being implemented. A key fact about this list is that the more specific an investment or programme is – i.e. the more focused it is on rural youth as opposed to youth in general or the rural population in general – the less is known about its impacts and cost effectiveness. Little evidence has been gathered on the effects of targeted investments and programmes for rural youth.

While the existing evidence on investments and programmes designed to help young people to become wage earners or to become self-employed comes from evaluations of urban programmes, it may hold lessons for the design of similar interventions in rural areas. This evidence shows that many youth-targeted programmes have been *unsuccessful*, which suggests that caution should be exercised when considering supply-driven, youth-targeted approaches for addressing perceived supply-side constraints. Success depends to a great extent on the quality of a programme's design, management and implementation capacity, its leadership and the available resources for delivering the expected results. This underscores the need to ensure that sufficient institutional and managerial capacity is in place before designing employment programmes for rural youth. Consequently, these kinds of programmes may be more suitable for more highly transformed countries and rural areas where those capacities and resources can actually be made available.

It is also reasonable to expect that programmes like these, which focus on preparing youth to take advantage of existing employment opportunities or to create them for themseves by becoming young entrepreneurs, will be effective as long as there are opportunities to be seized. Here again, more highy transformed economies and spaces that offer young people more opportunities are likely to benefit more from such investments.

The evidence also indicates that, in the case of employment programmes, a lack of technical skills is not the biggest obstacle that youth face when trying to enter the labour market (Fox and Kaul, 2018). While this evidence comes from urban programmes,

TABLE 10.1 Examples of broad rural development and youth-specific investments, policies and programmes

Broad rural development policies and programmes	Youth-specific policies and programmes
Rural-rural and rural-urban road infrastructure	Programmes to improve the quality of public education
Rural electrification for productive activities	Programmes to prevent people from dropping out of school
Access to workspace and infrastructure for rural and small-town households and for small and medium-sized enterprises (SMEs)	Second-chance education for out-of-school youth
Rural water, health and sanitation	Positive youth development programmes that provide mentorship
Regulatory structures to promote mobile communications coverage in rural areas	Youth-focused microfinance, savings groups and cash transfers for business start-ups
Regulatory structures to promote mobile money and mobile finance	Programmes to help youth re-enter farming activities after having spent time outside rural areas
Simplification of business registration procedures	Programmes promoting access to land for entrepreneurial young farmers
Community microfinance, savings groups, cash transfers for business start-ups	After-school programmes for adolescent girls
Digitally enabled and demand-driven agricultural extension initiatives featuring peer-to-peer learning	Investments in reproductive health (including family planning) education and services for young girls
Policies for the promotion of land rental markets	Vocational training and apprenticeship programmes for young people
Intergenerational land transfer programmes	Programmes aimed at building non-cognitive skills, including team-building and practical problem-solving
Improvements in land registration and transactions systems	Social marketing for healthy eating choices
Support for the growth of secondary cities and rural towns, including linkages to rural areas	Leveraging programmes to encourage NGOs to experiment with youth-centred entrepreneurial programmes
Improved wholesale markets	Establishment and maintenance of the Enabling Youth Employment Index (AfDB)
Value chain investments designed in collaboration with the private sector	Technical assistance to microfinance institutions to help them to innovate, deliver and document financial services for young people
Loan guarantees for rural small and medium-sized enterprises (SMEs)	Active labour market policies for the unemployed

it is reasonable to believe that it holds for rural interventions as well, especially since most rural tasks (on the farm or elsewhere) do not require a high degree of technical skill. This suggests that there may be scope for youth-targeted programmes to focus on the development of cognitive and non-cognitive skills (with the latter being related to personality traits such as conscientiousness, extraversion, agreeableness and openness to experience) in order to help rural youth to gain agency and thus to become more productive and better connected. For instance, evidence is emerging on the importance of investing in these skills for both wage employment and self-employment and of establishing microenterprises in developing countries, including in their rural areas. These skills, together with cognitive skills, are strongly linked to employment and earning outcomes (Heckman and Kautz, 2013).

The complexity involved in making rural youth investments and the limited evidence for their effectiveness counsel caution, but not paralysis. Less transformed

countries with fewer fiscal resources and a greater deficit in fundamental capabilities need to focus investments on improving those fundamental capabilities and addressing broad rural development challenges. Yet they should also learn from the more effective youth-specific interventions in other countries and experiment with modest and preferably externally financed initiatives of this type. As long as policymakers take into account the characteristics of the rural spaces where these interventions are implemented and explicitly build in a learning agenda, these attempts can make a valuable contribution to improved rural youth policies. More highly transformed countries, of course, have more room for experimentation and may be able to derive more benefit from many types of youth-specific programmes. Here too, however, caution is warranted; youth-targeted programmes should be treated as learning opportunities that complement fundamentally sound rural development programmes that benefit rural people, including rural young people.

Proliferating national "youth policies" need to focus on striking the right balance in the light of their countries' and opportunity spaces' levels of transformation

While there are no "right" or "wrong" youth policies, what is important is that targeted and non-targeted rural youth development policies and investments are balanced with and embedded in a broader rural development strategy rather than being conceived of in isolation of the wider development framework. Rural youth investments can have more far-reaching and sustainable impacts for the rural youth population when they are aligned with and integrated into national strategies, policies and programmes and when there is a vertical integration of policies across all geopolitical (from the national to the local) levels.

Nevertheless, the last few decades have seen a proliferation of national "youth policies" that place youth at the centre of what are frequently ambitious and multisectoral policy initiatives designed to improve development outcomes for young people. As at 2014, 122 countries had a national youth policy or strategy in place, and more than 40 per cent of the countries in all regions had approved youth policies (Youthpolicy, 2014). Yet approving a youth policy does not necessarily translate into adequate budget allocations and effective implementation, much less the inclusion of *rural* youth in the transformation process. A review of 57 of these youth strategies found that 40 of them considered rural youth development in some way, 15 contained at least one policy objective or specific programme that targeted rural youth, and 17 made no mention of rural youth at all (Phillips, Pereznieto and Stevenson, 2018). For instance, one of the more ambitious rural youth strategies is in South Africa, a country with high rural and structural transformation levels (see **BOX 10.1**). It should be noted, however, that the degree of policy

BOX 10.1 South African National Youth Policy

The South African National Youth Policy 2015-2020 includes a comprehensive analysis of the situation of rural youth, along with a clear problem statement that addresses the diversity of the rural youth population. In terms of areas of action, the policy document includes economic participation, education, health care, social cohesion and the creation of effective, responsive youth development institutions. The specific policy outlines are accompanied by a clear allocation of responsibility for implementation to relevant ministries. Programmes that have emanated from the National Youth Policy include:

(1) A large-scale youth enterprise creation programme to be implemented by the Department of Small Business Development in partnership with other departments and agencies, with a specific focus on rural areas;

(2) Support for the creation of youth-owned ecotourism facilities in rural areas, to be provided by the National Youth Development Agency, working in conjunction with the Department of Small Business Development; and

(3) The National Rural Youth Service Corps (NARYSEC), a 24-month skill development programme implemented by the Department for Rural Development and Land Reform which targets unemployed rural youth between the ages of 18 and 25 from poor rural wards who have completed secondary school. This programme, which forms part of the country's rural economy transformation strategy, helps participants build their skills through various skills development initiatives conducted in partnership with public and private institutions.

These multi-pronged and multi-level actions by the South African Government reflect a strategic approach to institutional coordination for effective policy roll-out in favour of rural youth.

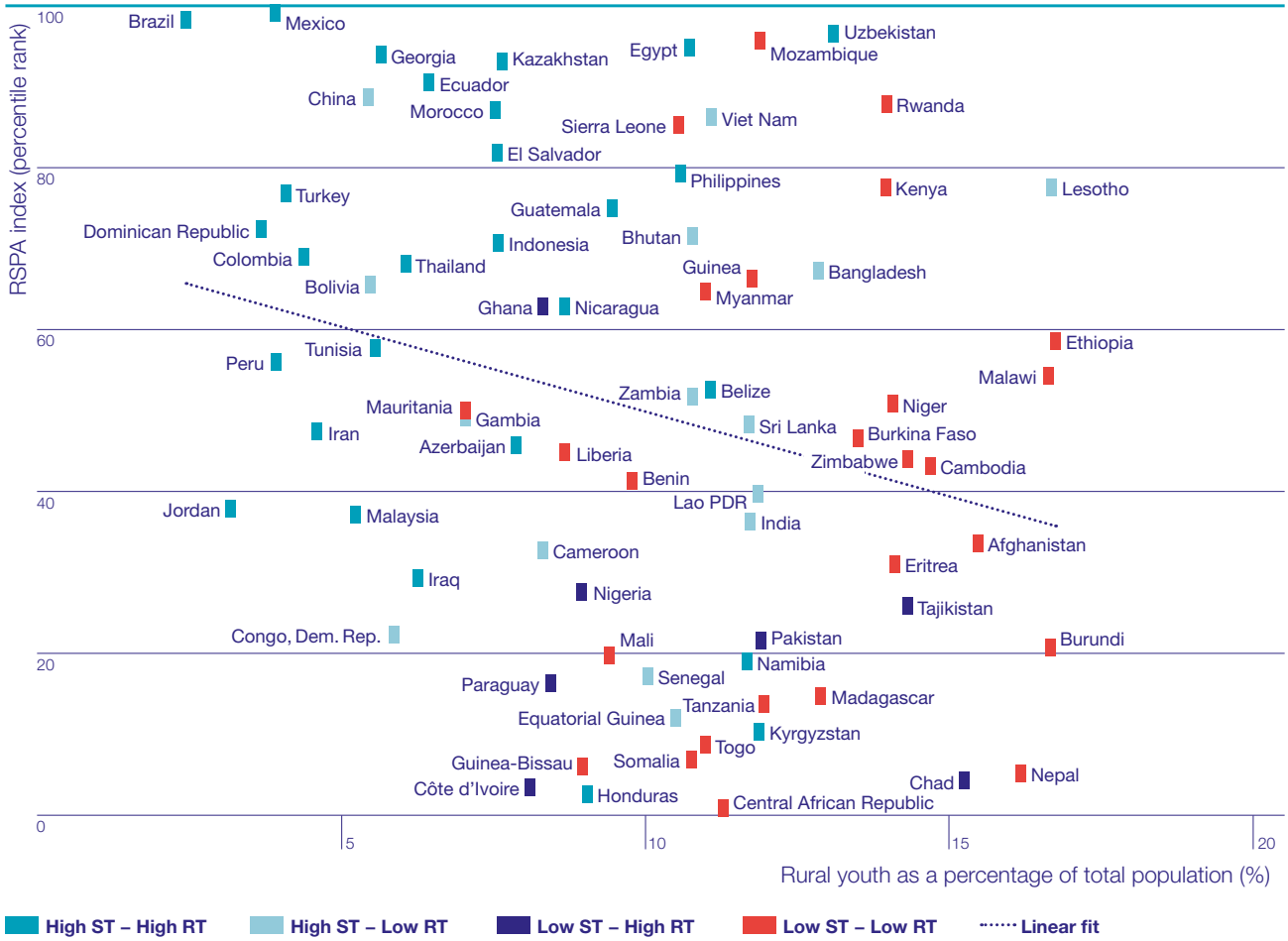
Source: Department of Rural Development and Land Reform http://www.ruraldevelopment.gov.za/ and South Africa. National Youth Policy 2015-2020. http://www.thepresidency.gov.za/download/file/fid/58.

focus on rural youth in a particular country does not appear to be related to the size of the rural youth population.

Prioritizing rural youth in national strategies is necessary but clearly not sufficient. The right set of policies is needed, as well as the proper balance between broader rural development investments and youth-specific ones. An added challenge of investing in rural youth is the fact that, as discussed in chapters 1 and 2 of this report, countries with large rural youth populations tend to have weak policy and institutional capacities, as indicated by their rankings on IFAD's Rural Sector Performance Assessment (RSPA) measure, which measures the quality of policies and institutions in the rural sector for achieving rural development and inclusive rural transformation (for further information see annex A and IFAD (2018)). There is a marked concentration of large youth populations in countries with a limited institutional capacity for designing and implementing policies and programmes on rural development (see **FIGURE 10.2**). Not surprisingly, these countries

FIGURE 10.2 Large rural youth populations are found in countries with weak policy and institutional capacity

Rural sector performance ranking and rural youth as a percentage of total population in 2015, by country transformation level



Note: IFAD's Rural Sector Performance Assessment (RSPA) measures the quality of policies and institutions in the rural sector for achieving rural development and rural transformation benefitting the poor. See annex A for more information on the RSPA.
Source: IFAD (2018).

are also more likely to have the lowest levels of structural and rural transformation. This capacity deficit is particularly problematic because rural youth development is a multidimensional and multisectoral – and therefore complex – process.

Many countries that have a national youth strategy and sufficient implementation capacity also have national ministries of youth – such as the Ministry of Youth and Sports in Ethiopia and Turkey and the Ministry of Youth and ICT in Rwanda – to put those strategies into effect. While having a ministry of youth may be a signal of the priority that is assigned to the youth population, the scope of its agenda (which may be chiefly confined, for example, to sports) may be much more limited than if the youth strategy were managed by ministries with broader mandates. If a ministry of youth exists, it should advocate for a comprehensive policy and investment agenda for rural youth.

When interventions designed to respond to multiple youth constraints are conceived of as multi-component, comprehensive programmes, they tend to be more effective in improving youth development outcomes (Kluve et al., 2017; Alvarado et al., 2017). These cross-sectoral programmes require horizontal coordination among leaders and stakeholders at the same territorial level (Layton, 2018) and should include mechanisms for participation by rural youth. The Employment and Livelihood for Adolescents Centres programme designed and implemented by BRAC in several Asian and African countries is an oft-cited example of how integrated approaches in rural youth programmes can yield effective development results (see chapter 3).

The coordinated work of different governmental agencies and development actors at different administrative levels, ranging from the local to the national, will also improve the chances that rural youth strategies will be appropriately translated into subnational, community or local plans, as appropriate. This transposition must take account of how the rural opportunity space changes at different levels, and policymakers must be willing to make needed modifications or to refrain from implementing the programme in certain areas if the returns are likely to be very small.

Designing youth strategies that are appropriate for specific countries and their rural spaces

The level of a country's structural and rural transformation at the national level sets the basic parameters for rural youth opportunities and for the types of policies that will be of the highest priority and that will be financially viable. While a national economy may be undergoing higher levels of structural and rural transformations, that process will not be advancing to the same extent in all areas within the country. Rural opportunities, then, are also conditioned to a large extent by market access (which determines the area's *commercialization potential*) and by the natural resource base (which is closely correlated with the *potential agricultural productivity* of a given area), and together these factors define the *rural opportunity space (ROS)*. A joint analysis of the country's transformation process and the rural opportunity space provides a framework for establishing investment, policy and programmatic priorities to help rural youth become productive, connected and in charge of their own futures.

First, in the least transformed countries, reducing the fertility rate and improving farm productivity and the connectivity of rural areas are of central importance in addressing low productivity and a lack of agency. This group (which includes Afghanistan, Benin, Burkina Faso, Cambodia, the Central African Republic, the Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Mali, Mozambique, Myanmar,

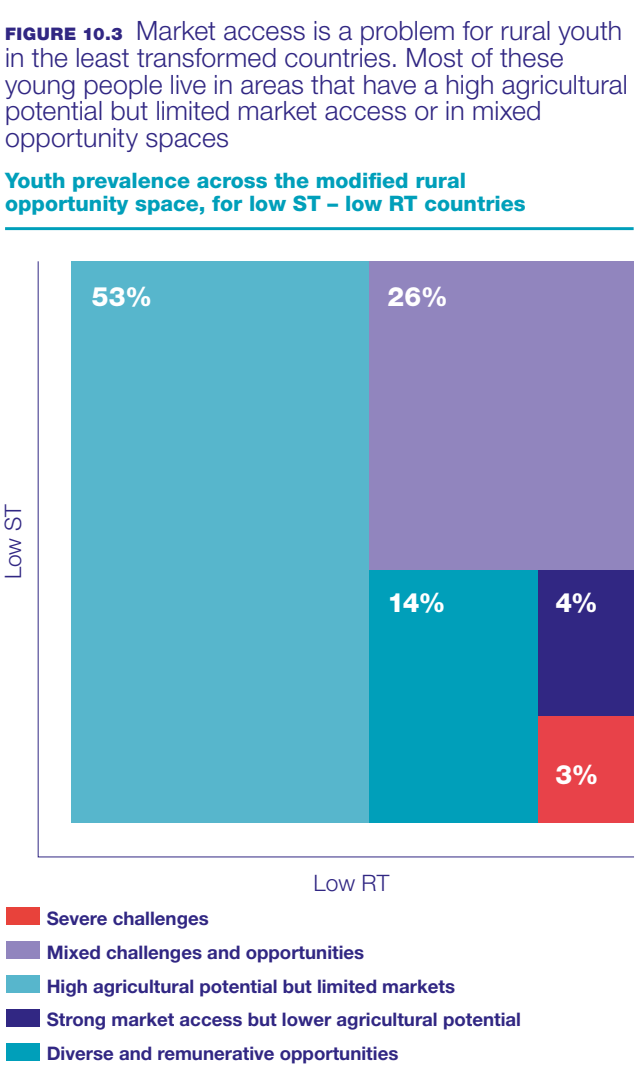
Nepal, Niger, Rwanda, Tanzania and Zimbabwe, among other countries) has the largest shares of rural youth, the lowest income levels, the highest poverty incidence and the least effective governments (see chapter 2 for a more detailed analysis). Households in this group are the most dependent on farming. Twenty-four of the 29 countries in this group are in Africa. These countries also have high fertility rates, and the very slow pace of their demographic transitions is undermining their long-term growth prospects (see chapter 5). In this context of limited opportunities for the entire rural population, investments should be focused on fostering broader rural development processes and ensuring that rural youth are included in these efforts (see **FIGURE 10.1**).

Geographically, over half of all rural youth living in these countries reside in areas that have a strong agricultural potential but limited access to markets. This is a larger share than is found in any other category in the country typology. Another quarter of this rural youth population live in mixed opportunity spaces, where both agricultural potential and market access are limited (see **FIGURE 10.4**).

These observations, and the analysis presented in preceding chapters, point to four priority policy and investment areas for the least transformed countries. These areas are mainly focused on promoting rural transformation while ensuring the inclusion of young people in that process. First, *fertility must be brought down rapidly*. Without such a reduction, these countries have little prospect of substantially expanding the overall availability of rural opportunities. Reducing fertility is largely a youth issue, since much of the reason for the high total fertility rates in this group of countries is the existence of much higher fertility rates among the *youngest women* in Africa than in other regions of the world.

Reducing fertility requires a combination of actions on the supply and demand sides of family planning services, along with investments in broad-ranging rural development and youth-specific investments. On the demand side, young women who have more economic and social opportunities will want fewer children and will be more likely to make use of family planning services if they are available (see chapter 3). Increasing young girls' opportunities entails providing them with a better primary and secondary education that should include programmes specifically designed to encourage girls to remain in school. Investing in after-school programmes with this objective can be appropriate where funding allows. Cultural attitudes that sharply constrain young women's aspirations and activities also need to be addressed through school curricula and, potentially, social marketing campaigns that include the wider society (see the reference to the Ishraq programme in chapter 9). On the supply side, access to basic health services

FIGURE 10.3 Market access is a problem for rural youth in the least transformed countries. Most of these young people live in areas that have a high agricultural potential but limited market access or in mixed opportunity spaces



for the general population needs to be expanded in rural areas, and reproductive health care specifically targeting young women needs to be a focus of education and services at these centres.

Second, these countries need to *increase the level of agricultural productivity* for the 67 per cent of rural youth who live in the highest-productivity areas (i.e. areas with a high agricultural potential but limited market access (HALM) and areas offering diverse and remunerative opportunities (DO)) (see **TABLE 2.1** in chapter 2). These are broad-spectrum rural development investments and policies focused on creating an enabling environment for the provision of agricultural inputs (especially seed and fertilizer) by a dynamic private sector, including small and medium-sized enterprises (SMEs). Because farming is so important in these economies and the sector is primarily composed of smallholders, policies and investments directed at enhancing overall rural productivity must also ensure the inclusion of rural youth in those efforts. This can be done, for example, by improving young people's access to productive land – preferably through ownership, but also by means of active rental markets – and by offering extension programmes in collaboration with NGOs that specifically reach out to young farmers.

Third, investments need to target *physical infrastructure, especially roads*. This is especially important for the 53 per cent of rural youth who live in HALM spaces – farming areas that are potentially productive but that have limited market connections. Prioritizing infrastructure in these areas will facilitate the uptake of the agricultural productivity investments mentioned in the previous paragraph. Road infrastructure is especially important in linking secondary cities and towns to rural areas and to larger markets. These investments should be complemented by investments in basic market infrastructure in urban areas. Wholesale markets that feature public-private ownership and management arrangements are a key aspect of this investment effort. Other investments that pave the way for the growth of such areas are targeted investments in energy, water, sanitation and health infrastructure.

Fourth, improved roads, ports and market infrastructure need to be coupled with *expanded private-sector-driven access to mobile connectivity*. This is primarily a regulatory issue and is not specific to young people, but rural youth may be among the greatest beneficiaries, as noted in chapter 8. Countries should learn from the outstanding success of Tanzania and Kenya in this respect, as they have seen the most rapid spread of mobile money (MM) use in the world over the past few years. Barriers to youth access to mobile technology remain high in other subregions, such as West and Central Africa, where there are many countries in which the transformation process has advanced very little.

For the 3 per cent of rural youth living in opportunity spaces that pose severe challenges and the 26 per cent residing in mixed opportunities spaces, governments should invest in developing and strengthening the connectivity between secondary cities and rural towns as a way of expanding the opportunities for those living in less well-endowed areas. These areas may also be highly vulnerable to climate shocks (e.g. extreme heat or droughts), so safety nets that will save lives and assets are of crucial importance.

In contrast, in opportunity spaces marked by strong market access but lower agricultural potential (SMLA) and DO spaces (4 per cent and 14 per cent, respectively, of rural youth in countries falling into this category in the country typology), policy should focus more on youth productivity. Investments of this type could include investments in the promotion of youth financial literacy and access to financial services, especially for SMEs and, in DO spaces, for high-value farming. The quality of secondary education in these areas could also be given greater priority – in contrast to the emphasis on basic

primary education in opportunity spaces subject to severe challenges (SC) or mixed opportunities (MO) – since running a successful small business or microenterprise or becoming a successful commercial farmer in dynamic value chains requires skills that are not typically attained without a strong secondary education.

Countries with low levels of structural transformation but high levels of rural transformation share many characteristics with the least transformed countries. Thus, policy and investment priorities are similar, although the former group of countries may have more fiscal space for youth-specific interventions. The small number of countries in this group (Chad, Côte d'Ivoire, Ghana, Nigeria, Pakistan, Paraguay and Tajikistan) account for just 10 per cent of the developing-country rural youth population. Their agricultural sectors have more large-scale production activities than the least transformed countries and generate a higher *average* value added per worker. However, this does not necessarily indicate that smallholder farming is more profitable in these countries, and a number of the challenges that they face are similar to those confronting the least transformed countries; the balance of investments and policies for these countries should therefore be similar to those that are most appropriate for the least transformed countries.

However, given that these countries have higher levels of rural transformation and higher average incomes, together with slightly less poverty, the policy and investment balance could include more interventions specific to rural youth than would be wise to attempt in the least transformed group. This may especially be the case in Ghana and Côte d'Ivoire, where incomes and infrastructure are appreciably better than in many other countries of the region. Beyond the youth-specific interventions discussed in the previous section, these countries may benefit from special efforts to facilitate rural youth access to the land and capital needed to engage in profitable farming. Because traditional export crops are so important in many of these countries (e.g. cocoa in Ghana and Côte d'Ivoire), insufficient attention may be paid to smallholder farmers wishing to enter rapidly growing domestic and regional urban markets for such items as fresh produce or poultry, or even aquaculture (see chapter 6). Yet the ambitions for such programmes could easily outstrip capacity, as these countries are still challenged in terms of government effectiveness. Thus, while youth-specific policies and investments are needed, efforts to enhance fundamental capabilities still need to take priority in order to ensure that the development results of those investments are achieved.

A third group is composed of countries which have high levels of structural transformation but have undergone a limited extent of rural transformation. These countries have more room

FIGURE 10.4 The rural opportunity space in countries with high levels of rural transformation but low levels of structural transformation is very similar to that of the least transformed countries

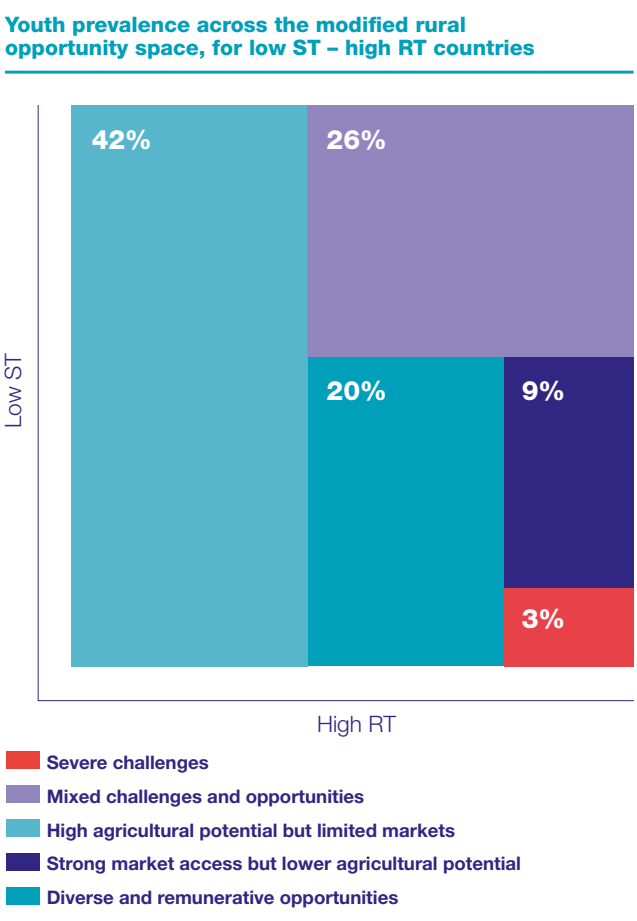
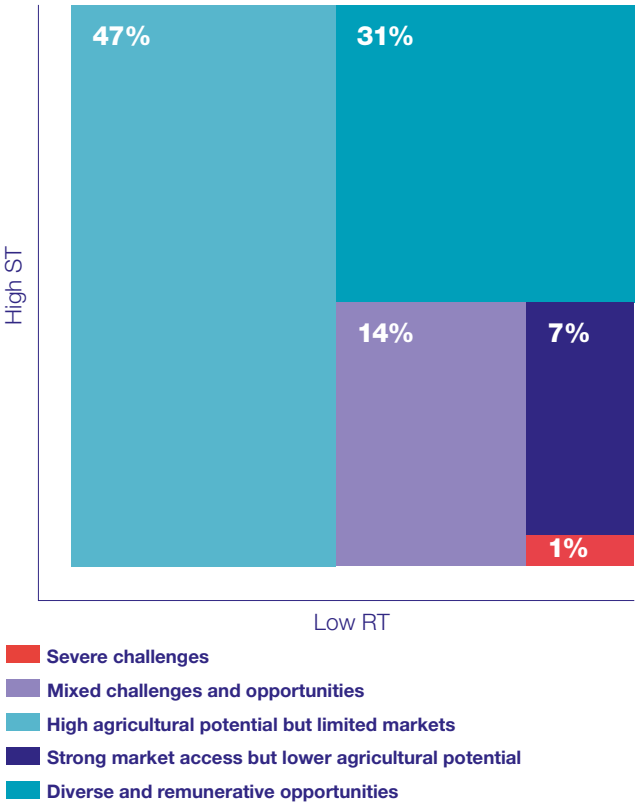


FIGURE 10.5 Countries with high levels of structural transformation but low levels of rural transformation have the largest proportion of young people living in areas with a strong agricultural potential, a large proportion living in diverse opportunity spaces and the smallest proportion living in spaces posing severe challenges

Youth prevalence across the modified rural opportunity space, for high ST – low RT countries



for youth-specific interventions. While only 15 out of the 85 lower- and middle-income countries analysed in this report fall into this category (including Bangladesh, Bhutan, Cameroon, China, India, Bolivia, Senegal, Sri Lanka, Viet Nam and Zambia), they are home to more than half the rural youth population in developing countries, as China and India are both in this group. These countries differ in three ways from the two groups described above: their levels of income and government effectiveness are higher; more of their rural youth live in areas with strong market access; and several of them have populations that are large enough to allow them to achieve economies of scale in the design and delivery of public goods and services. Three subgroups of countries can thus be distinguished within this larger category.

First, India and China together account for 88 per cent of the young people in this group of countries. Rural youth here are spread across the entire rural opportunity space, but the vast majority (70 to 80 per cent) live in areas with a high agricultural potential (HALM and DO). Because they are both populous and densely populated, they can achieve much greater economies of scale than other countries in infrastructure investments and in youth-specific interventions, particularly those related to increased rural connectivity.

Second, Viet Nam, Bangladesh and Sri Lanka account for approximately 10 per cent of this group's youth population. In all, 9 out of 10 rural youth in these countries reside either in DO spaces or HALM spaces. Due to its population density, Bangladesh stands out from the rest, with about 80 per cent of its young people living in DO spaces, which is the highest proportion in the developing world (followed by Egypt with 56 per cent). These three countries can also benefit from economies of scale in infrastructure investment and from youth-specific interventions. To a greater extent than in the preceding two groups, the policy and investment balance should lean more towards helping rural youth transition into the non-farm economy, which is more developed in these countries (as they have higher levels of structural transformation) and is growing very rapidly within the framework of the structural transformation process. Improving rural young people's cognitive and non-cognitive skills in order to enhance their ability to engage more successfully in the society and economy may be the key challenge here. For the young people in the farm sector, extension services will be of paramount importance in providing advisory services concerning the use of external inputs and the development of marketing strategies.

Apart from Bolivia in LAC, the other countries in this group are spread across Africa and Asia. The main element that differentiates these countries from the others

in this group is that very large shares – between about 80 per cent and 90 per cent – of their rural youth populations live in areas with strong agricultural potential but limited markets (HALM). This makes their rural opportunity space very similar to that of the least transformed countries. Yet, because of their higher levels of structural transformation, they have, on average, higher incomes, larger markets, more fiscal resources for investment and more effective governments. Investments designed to increase agricultural productivity, paired with interventions to improve market access for young entrepreneurial farmers, are called for here. Since more fiscal resources are available in this group, initiatives could include youth-focused microfinance and savings groups oriented towards high-value crops, learning groups devoted to mastering emerging mobile technologies that can be used to provide market intelligence and information on access to agricultural services, and programmes to promote access to land for entrepreneurial young farmers. Programmes to help youth re-enter the farm sector after having been away from it can be appropriate in some countries, as in Zambia, for example, where people move between urban and rural livelihoods depending on the performance of the copper sector, and Bolivia, where, as in the Andean region in general, circular migration is relatively common.

Last but not least, highly transformed developing countries require the widest array of rural youth investments as they are the most diverse group in terms of their opportunity spaces. Countries in this group include Algeria, Azerbaijan, Brazil, Colombia, Ecuador, Egypt, Eswatini, Indonesia, Jordan, Mexico, Morocco, Peru, the Philippines, South Africa, Tunisia, Turkey and Uzbekistan (for the full list, see chapter 2). Only 18 per cent of the developing-world youth population live in these countries, but these young people are distributed across the entire rural opportunity spectrum. It is particularly noteworthy that this group has the largest share of the youth population that is living in areas with low agricultural and connectivity potentials. This is most probably attributable to the existence of pockets of persistent poverty, in spite of these countries' high levels of structural and rural transformation. Thus, the policy and investment balance should incline towards rural youth-specific interventions directed at tackling the family-related and personal constraints affecting young people in rural areas, since these countries' primary challenge is to ensure that their rural transformation process is inclusive of rural youth, including those from minority groups.

As the most highly transformed developing countries, this group has the highest incomes, the lowest rural poverty rates, the highest government effectiveness ratings and the smallest proportions of rural youth in their populations. Fertility rates are low, and most of these countries have captured the demographic dividend to some extent. However, these countries are confronted with the most challenging geographically defined opportunity spaces of all. Alone among the four categories in the country typology, less than half of their rural youth live in areas with a high agricultural potential (HALM and DO spaces), compared to between 62 per cent and 78 per cent in the other country categories (see **FIGURE 10.6**). The 9 per cent of rural youth in SC spaces in these countries contrasts with much lower rates (between 1 per cent and 3 per cent) in the other country categories. Finally, these countries face far greater challenges in terms of some of the negative consequences of modern economic growth, including much higher rates of crime and insecurity, along with high and rapidly rising rates of overweight and obesity and the associated problems of non-communicable diseases.

Given this situation, it is possible to envisage six policy and investment priority areas for fostering rural youth opportunities. First, governments should *address pockets of persistent rural poverty* with a mix of targeted rural development initiatives, social safety

nets and youth-specific investments. Rural development in these areas should focus more on building connections to markets and paving the way for entry into the non-farm economy, as input markets are relatively well developed and youth can generally gain access to high quality inputs (e.g. germplasm) if they wish to do so.

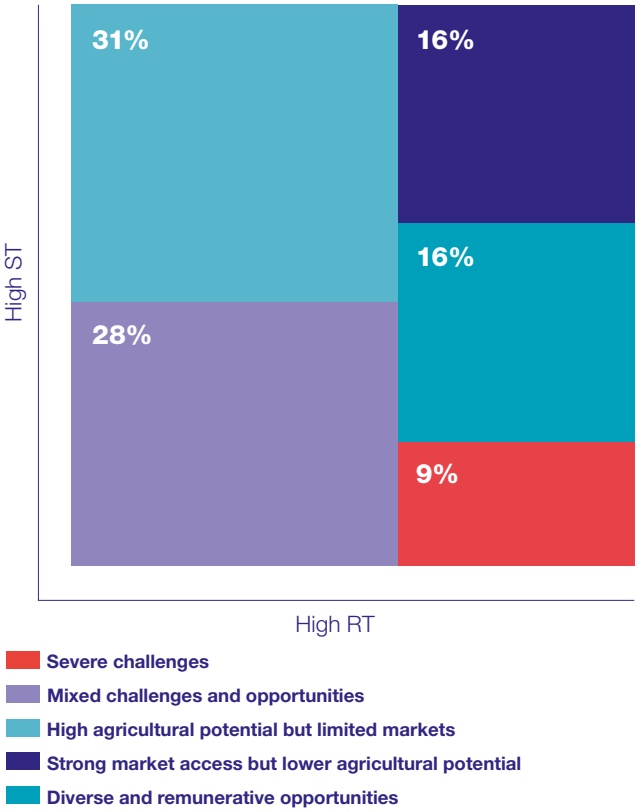
Second, youth-specific investments in areas where rural poverty persists need to focus, among other things, on building and strengthening rural young people's cognitive and non-cognitive skills so that they will be better prepared to seize the opportunities that are opened up as their countries attain more advanced stages in the transformation process. Under these circumstances, the pay-offs of improved secondary (as opposed to just primary) education could be high. The integration of technical education modules into formal secondary education curricula could also be called for, as long as this effort is coordinated with private sector firms in order to ensure that these modules are aligned with the technical skills that are in demand. Other youth-specific investments that may have value include programmes to encourage students to stay in school, second-chance educational opportunities for out-of-school youth, after-school programmes for young girls and positive youth development (PYD) programmes that emphasize non-cognitive skills.

A third priority area that these countries must urgently address, as a youth-specific matter, is second-generation nutrition problems. The modern food systems (see chapter 6) that have emerged in these countries target youth with advertising for ultra-processed foods and sugar-sweetened beverages. These foods and drinks have displaced much healthier options in many young people's diets, in rural as well as urban areas. As a result, child overweight and obesity are reaching epidemic proportions in many of these countries, and children are facing lives of chronic health problems as a result. Evidence as to what works in changing behaviours in these areas is only now emerging, but countries in this category, especially in Latin America, are among the leaders in more aggressive product labelling, regulation of food marketing to children and social marketing to promote healthy eating choices (Instituto Nacional de Salud Pública de México, 2016). Such initiatives should be pursued and be paired with well-designed research protocols so that policymakers can learn what works.

Fourth, these countries need to complete the extension of their electrification and sanitation networks into remote rural areas. This is not, of course, a youth-specific investment. Most rural areas in these countries already have access to such services, but some more remote areas still lack access. Extending this infrastructure to these areas will go a long way towards facilitating access for rural youth, who will then be more able to

FIGURE 10.6 The rural opportunity space is highly diverse in the most transformed countries. In general, agricultural potential is lower but market connections are much stronger

Youth prevalence across the modified rural opportunity space, for High ST – High RT countries



study in the evenings, better able to access sources of energy for SME activities and less likely to become ill as a result of water-borne and food-borne diseases associated with poor sanitation.

Fifth, these countries need to address youth unemployment, which is much higher than in the less transformed countries in the other three country categories. Like some of the more advanced countries with high levels of structural transformation but low levels of rural transformation, these more transformed countries could consider employing proactive labour market policies to promote youth employment (see **TABLE 10.1**). To be effective, these approaches need to be combined with the elements that were discussed above: investments in a higher quality of secondary education in rural areas, improved infrastructure to link farms and SMEs to markets, and a regulatory structure that makes it easier to open businesses and provides much more access to mobile money and finance services delivered by private companies.

Finally, a key challenge for these countries may be to generate the political will to ensure that their rural transformation process is inclusive of currently isolated youth populations. Cultural differences may also play a role, with some indigenous communities remaining outside the mainstream society and economy, as in Peru, where the highest percentage (46 per cent) of rural youth live in opportunity spaces in which they face severe challenges. Mechanisms for allowing rural young people to make their voices heard and to channel their views into policy forums should receive increasing attention under these circumstances.

Cross-cutting investments

All countries need to seek to obtain the digital dividend, but the least transformed countries and most challenging spaces may stand to benefit the most. The digital revolution is fundamentally re-shaping the future of work, as well as connectivity for people, places and ideas everywhere in the world. Investments in fundamental capabilities, though always central to development, must now carry a larger share of the growth burden, as the digital revolution is bringing about structural changes that are narrowing the "easy growth" path of labour-intensive manufacturing. Although countries with the highest levels of transformation may find it easier to devote the necessary fiscal resources to making the right investments and possess the necessary institutional capacity to do so, the least transformed ones stand to benefit the most from investments in digital information and communication technologies. For instance, mobile telephony is reaching vast areas that have never been served by landlines, and there are thriving mobile payment markets in places that formal banking systems have not reached. At the same time, digital technologies make it possible to bridge the age, gender and rural-urban divides that tend to be the widest in the least-transformed countries. Regardless of a country's level of transformation, the mobile money adoption rates of young people are comparable to those of adults, women are just as likely to use them as men, and rural areas have penetration rates that are similar to those of urban areas (Gasparri and Muñoz, 2018).

Finally, because most investment in this area comes from private sources and depends primarily on the existence of a conducive regulatory environment, more highly transformed countries' advantage in terms of fiscal resources may be less important.

Nearly all African countries need to dramatically speed up their demographic transition, and doing so starts with youth. All countries go through a demographic

transition as their economies grow, but only those that invest in the right policies during the temporary period of low dependency ratios reap a demographic dividend. Efforts in this connection need to take the spatial and temporal dimensions into account because, since rural areas lag behind urban ones in their demographic transition, there are very different age and gender structures at different points along the rural-urban continuum (see chapter 5). Investments in both the productive and reproductive spheres of rural young women's lives are needed in places that are lagging behind. These needs include improvements in access to maternal and health care and to family planning and reproductive education services in order to lower fertility rates and enhance educational outcomes. These policies, however, cannot achieve a great deal in places where social norms constrain young women's economic and social participation. Thus, efforts on this front cannot ignore the age and sex differences that exist along the rural-urban gradient. Women account for a larger share of the labour force in rural areas, and this is particularly true of young adult women, so their human capital and labour outcomes have a very large impact on the size of the attainable demographic dividend. This kind of spatial and subnational approach to youth policy is imperative in order to ensure that the first demographic dividend is grasped and that enabling conditions are created for the realization of the second demographic dividend.

Rural opportunities everywhere will be influenced by climate change in complex and uncertain ways, and youth are particularly vulnerable. Integrated development and climate policies and investments are called for in order to address this situation. The latest report from the Intergovernmental Panel on Climate Change warns that the world has little time to take action to avert the devastating impacts of climate change (IPCC, 2018). The analysis conducted for this report shows that low- and middle-income countries with large youth populations are still heavily agricultural. Yet, while climate change has a direct impact on agriculture, it also affects youth opportunities in other sectors. A comprehensive package of investments in all sectors is therefore required to deal with this challenge. In order for rural youth to be able to adapt to climate change in all sectors, they need the capacity to process complex information about risks and new technologies. Much of this information can be conveyed to rural youth by digital means, but in order for this to be possible, governments have to put in place regulatory frameworks that promote affordable access to private mobile technology and services. With such access in place, young people can make use of the rapidly updated information that is available on the web in order to help to make up for the limited capacity of traditional information systems, including rural extension systems, to deal with change (Lipper et al., 2014). Yet because this information may be complex, young people will need strong skills if they are to use it properly to develop strategies that work for them. And in order for that to happen, countries need to improve their education systems (Muttarak and Lutz, 2014) and establish extension systems that put the emphasis on "learning to learn".

Final remarks

As policies and investments for improving the opportunities that are available to young people in rural areas have to be embedded in broader national and local strategies, policies and programmes, participation mechanisms for rural youth should also be a part of those wider policies and processes. Often, governments engage young people only in connection with "youth-related issues" (such as volunteering, sports and recreational activities) or, in the case of rural youth, "rural" topics, instead of working with them on a

wider range of topics of concern to them (such as employment, sexual and reproductive rights policy, etc.) that go beyond the bounds of rural issues. The effective participation of rural youth throughout the policy process is, then, a key element in the development of conducive policy environments to maximize young people's productivity, connectivity, agency and, above all, opportunities.

Many countries should be commended for the efforts and investments they have devoted to making their development processes youth-inclusive. At the same time, they should also be encouraged to make these efforts more comprehensive. For rural youth, in particular, policies and investments must ensure broad rural opportunities while promoting youth inclusion. Only then will the prospects for rural youth be brighter and only then will they be in a position to create a dividend for society.

SPOTLIGHT The future of research dealing with the rural youth population

The evidence base for determining what works in promoting rural youth development is very weak. In its current state, it is about where the evidence on gender and development was in the early 1980s. The gender and development literature started out from a weak evidence base, but this eventually became one of the most researched topics in the field of rural development; the youth and development literature is still in its infancy. Given the importance of the increasing numbers of youth in some countries at this juncture in the global dynamics of change, which include the demographic transition, the AFS transformation process, the digital revolution and climate change, policymakers are increasingly incorporating youth issues into their discourse.

Because there is a lack of evidence, most of the discourse on rural youth is not rooted in empirically substantiated facts. Many of the claims being made in the youth literature are not supported by the available evidence (Sumberg et al., 2018). Most robust (globally comparable) evidence on youth education and employment has an urban bias because data are easier to collect in urban areas, where formal employment predominates. The discourse around youth empowerment/agency has also suffered from an urban bias until recently because of the greater ease with which various types of programmes can reach urban youth and because some youth organizations are subject to elite capture (Trivelli and Morel, 2018). Rural young people, especially those who are in the most isolated areas, engage in the economy and society in different ways that are hard to capture in official figures. Researchers are just starting to scratch the surface of the realities of rural youth thanks to the increasing availability of microdata and big data. See annex D for a detailed assessment of data availability and remaining challenges (available at: www.ifad.org/ruraldevelopmentreport)).

The increasing availability of individual-level data that are disaggregated by age and gender, combined with big data, is facilitating the compilation of increasing amounts of more robust evidence on rural youth issues. Data from sources such as those used in this report (e.g. Living Standards Measurements Surveys (LSMS) and Demographic and Health Surveys (DHS)) are becoming increasingly available for use by developing-country researchers. Many LSMS datasets are now in the form of panel data, which means that youth trajectories can be studied directly, rather than being inferred from successive cross-sectional surveys. Despite increasing data availability, key challenges remain in the areas of data integration across various sources and of measuring variables particularly important for rural youth. These are skills, especially noncognitive ones, and farm work (for further information, see annex D: Indicators and sources of data on rural youth employment, available online only at: www.ifad.org/ruraldevelopmentreport). The Young Lives programme (younglives.org.uk) is generating quantitative and qualitative data of an unprecedented depth on micro-dimensions of young people's lives in four countries over time, and this information is providing a wealth of new insights. Even the WorldPop data used in this report now include estimates of age-disaggregated populations at the pixel level. These and other data are opening up unprecedented opportunities for understanding young people's lives in developing countries and for designing programmes that will work for them.

All the targets and sub-targets for the Sustainable Development Goals call for the compilation of age- and gender-disaggregated evidence for monitoring and evaluation purposes. The Millennium Development Goals turbo-charged the gender and development literature with their focus on women in development. The Sustainable Development Goals (SDGs) may now do the same for youth, since age- and gender-disaggregated data are required to monitor progress towards achieving the SDG targets. Future research should place special emphasis on the differences in rural youth livelihoods to be observed along the rural-urban gradient, given how influential these differences are in terms of the productivity, connectivity and agency of rural youth, as documented in this report. Qualitative research is also needed in order to complement quantitative methodologies as a basis for the attainment of a better understanding of the contextual factors that shape youth livelihood outcomes.

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Annex

ANNEX A Rural sector performance assessment

IFAD's Rural Sector Performance Assessment (RSPA) measures the quality of pro-poor rural development and rural transformation policies and institutions. IFAD makes use of the RSPA in applying the methodology – the performance-based allocation system (PBAS) – that it uses to distribute its financial resources among its developing Member States. The PBAS consists of a formula composed of a needs component and a performance component. The RSPA is one of the variables in the performance component.[51] The RSPA is also used to inform the development of IFAD country strategic opportunities programmes (COSOPs).

The RSPA captures robust information about a country's policy framework, especially as it relates to the rural sector (e.g. the quality and quantity of attention devoted to rural development by the government). It also focuses on areas which impact a country's rural sector (e.g. the macroeconomic setting, including the exchange rate and the debt and trade regimes). In keeping with IFAD's mandate, the RSPA is aligned with the IFAD Strategic Framework 2016-2025 and therefore prioritizes cross-cutting issues such as gender equality, nutrition and climate change.

The RSPA is divided into six clusters, with a total of 19 questions. Each question can be broken down into a set of measurable qualitative and quantitative indicators that are used to calculate an overall RSPA score for each of 125 countries. Quantitative indicators measure the performance of country policies, whereas qualitative indicators measure the presence of an effective policy framework. For each question, a mix of qualitative and quantitative indicators is used. RSPA scores are based on a scale from 1 to 6 and are relative to the scores of the other countries included in the assessment exercise.

The IFAD11 RSPA results are fundamentally aligned with the World Bank Country Policy and Institutional Assessment (CPIA), although RSPA scores are moderately higher. The average World Bank CPIA score for IFAD Member States is 3.21, which is 0.36 points lower than the overall IFAD11 RSPA average. There is a high correlation between the overall IFAD11 RSPA scores and the 2017 World Bank CPIA ratings, suggesting the absence of any structural bias in the assessments.

Additionally, on average, RPSA scores appear to be correlated with income. High-income countries obtained significantly higher scores than those in lower income brackets. This was consistent across each of the six RSPA thematic clusters, suggesting that high-income countries have a more effective rural development framework.

RPSA scores for all countries and questions are publicly available and are used by an array of other development actors to measure the strength of rural policies and institutions with regard to specific topics and countries. IFAD is committed to using the scores in its country assessments and as a basis for policy engagement with governments.

51 The performance component also includes a variable that measures the performance of the IFAD-financed portfolio at the country level (the portfolio performance and disbursement (PAD) variable). The needs component includes the gross national income per capita (GNIpc), the size of the rural population and the IFAD vulnerability index.

2018 Rural Sector Performance Assessment (RSPA) scores – **ASIA AND THE PACIFIC**

RSPA indicator	Afghanistan	Bangladesh	Bhutan	Cambodia	China	India	Indonesia	Kiribati	Lao People's Democratic Republic	Maldives	Nepal	Pakistan	Samoa	Sri Lanka	Tonga	Viet Nam
1. Policies and legal framework for rural organizations (ROs) and rural people																
(1.1) Policies and framework for rural development and rural poverty alleviation	3.6	4.2	4.4	3.1	4.7	4.2	3.9	3.5	4.3	2.6	4	4.2	4.7	4.2	4	4.2
(1.2) Legal frameworks for and autonomy of rural people's organizations	3.8	3.8	4	3.8	3.4	4.9	4.4	3	2.3	3	4.4	3.5	3.9	4.4	3.5	3.3
(1.3) Representation and influence of ROs and rural people	1.8	3.3	4.2	4.2	3.4	4.7	3.9	4.2	3.4	3.9	4.2	4.2	3.3	3.6	3.4	4.2
2. Rural governance, transparency and public administration																
(2.1) Quality and transparency of allocation of resources for rural development	1.9	3.4	5	3.2	4.5	4.4	3.8	2.5	2.1	2.5	3.2	3.2	4	2.9	3.5	3.2
(2.2) Accountability, transparency and corruption	2	2.9	4.6	2.3	2.7	4.4	4	3.5	2.2	2.5	3.2	3.2	4	3.7	3.5	2.7
3. Natural resources and environmental policies and practices																
(3.1) Environmental assessment policies and grievance mechanisms	3.4	3.6	4.8	4.4	4.2	4.2	4.1	4.6	4.5	4.2	3.8	4.3	4	3.7	4.2	4.8
(3.2) National climate change policies	3	4.1	4.1	3.9	3.6	4.1	4	4.6	4.1	3.8	3.1	3.4	3.3	2.7	3.9	3.8
(3.3) Access to land	1.3	3.4	3.9	4	3.8	3.2	4.9	3.5	3.8	3	3.2	3.6	4	2.7	3.9	3.2
(3.4) Access to water	2.7	4	5.2	3.5	4.5	4.1	3.8	3.7	3.1	4.7	4.2	3.2	4.2	3.5	4.3	4.4
4. Financial policy, access to services and markets																
(4.1) Access to and use of rural financial services	3.2	3.9	3.9	4	4.8	4.6	2.7	2.5	1.9	3	4.3	3.5	3.5	3.2	3.5	2.7
(4.2) Investment Climate for Rural Business	3.1	2.8	3.8	2.8	4.4	4	4.3	2.2	1.9	3.2	3.1	3.8	2.6	3.5	3.3	3.4
(4.3) Access to agricultural input and produce markets	4	2.5	4.4	3.3	3.5	3.2	3	4.2	3.7	3.2	3.6	2.7	3.5	3.6	3.1	3.7
(4.4) Access to extension services	3.5	5.2	4.1	4.2	4.2	5	4.8	2.4	4.7	2.4	3.8	3.3	4.6	4.4	3.9	2.9
5. Nutrition and gender equality																
(5.1) Nutrition policy framework and outcomes	4.2	4.5	4.9	4.6	5.1	4.4	4.9	3.6	4.5	2.8	4.2	3.1	4.1	4.8	2.5	4.8
(5.2) Policy framework for gender equality	3.4	3.4	3.8	3.9	4.8	3.4	4	2.5	3.8	3	2.8	3.5	3.9	2.8	3	4.4
6. Macroeconomic policies and conditions for rural development																
(6.1) Monetary and exchange rate policies	4	4.6	3.2	4	4.8	4.4	4.2	3	4.3	3	4	3.5	4.5	3.6	3.5	4.7
(6.2) Fiscal Policy and Taxation	3.5	3.5	4.7	4	3.7	2.8	3.6	3	3.5	2.5	4.2	3.3	4.5	3	3.5	3.8
(6.3) Debt Policy	2.4	4.9	3.5	4.3	4.8	4.3	3.3	2.5	3.2	2.5	4.3	3.5	3.5	3.2	3.5	4.1
(6.4) Trade Policy	4.1	3.2	2.5	3.8	4.5	3.9	3.9	3.5	3.7	4	3.5	3	4.5	4.2	4.5	4.3
Average of all indicators	**3.1**	**3.7**	**4.2**	**3.8**	**4.2**	**4.1**	**4**	**3.3**	**3.4**	**3.1**	**3.7**	**3.5**	**3.9**	**3.6**	**3.6**	**3.8**

2018 RSPA scores – **EAST AND SOUTHERN AFRICA**

RSPA indicator	Angola	Burundi	Comoros	Eritrea	Ethiopia	Kenya	Lesotho	Madagascar	Malawi	Mozambique	Rwanda	South Sudan	United Republic of Tanzania	Uganda	Zambia	Zimbabwe
1. Policies and legal framework for rural organizations (ROs) and rural people																
(1.1) Policies and framework for rural development and rural poverty alleviation	3.7	3.5	3.5	2.5	3.4	4.5	2.6	3	3.1	3.8	4.3	2	3.4	3.2	3.6	3.8
(1.2) Legal frameworks for and autonomy of rural people's organizations	2.7	3.2	4	1.6	3.4	4.1	4.2	4.2	4.5	3.9	3.8	1	4.2	4.1	4.7	3.1
(1.3) Representation and influence of ROs and rural people	4.2	2	2.6	1	3.9	5	3.4	4.2	5	4.2	3.9	2.6	3.8	4.2	4.2	3.5
2. Rural governance, transparency and public administration																
(2.1) Quality and transparency of allocation of resources for rural development	2.6	2.1	2.5	1.4	3.1	3.1	4.1	2.2	2.4	3.2	3.7	1	1.5	3.4	4.2	1.9
(2.2) Accountability, transparency and corruption	2.3	1.8	2.5	1.5	2.3	3	4.2	3.5	3.6	3.3	4.9	1.5	3.6	2.6	3.2	1.9
3. Natural resources and environmental policies and practices																
(3.1) Environmental assessment policies and grievance mechanisms	4.3	2.9	2	1.3	4	4.8	3.8	3.4	3.3	3.9	3.9	1.2	4.7	4	4.1	3
(3.2) National climate change policies	4.4	4.2	4.7	2.4	3.6	4	4	3.7	3.6	3.7	4.1	3.9	4.5	4.4	4	3.4
(3.3) Access to land	3.5	3.2	3	1.8	2.9	4.4	4.4	4.9	3.5	3.8	4.1	2.1	4.1	3.6	2.6	3.7
(3.4) Access to water	3.1	3.7	3.5	3	3.9	4.4	4.3	3.4	4.2	3.5	4.7	3.3	3.5	3.8	3.1	3.4
4. Financial policy, access to services and markets																
(4.1) Access to and use of rural financial services	2.4	3.1	2.5	1	2.9	4.6	2.6	3.4	3.5	3.6	4.1	1.3	3.2	4.2	4.5	3.3
(4.2) Investment Climate for Rural Business	2.6	2.2	2.7	2	3.6	2.5	2.2	2.8	2.6	2.6	4	1.6	3.9	3	3.8	3.3
(4.3) Access to agricultural input and produce markets	3.4	4.2	3.2	3.9	3.5	3.5	2.7	2.4	3.1	4	3.8	2	3.7	3	2	3.7
(4.4) Access to extension services	3.6	4.8	2.4	1	4.7	4.8	3.8	2.7	4.9	4.4	4.1	4.1	3.6	4.4	5.1	3.9
5. Nutrition and gender equality																
(5.1) Nutrition policy framework and outcomes	2.9	3.8	2	2	4.4	4.4	3.5	4	4.5	4.2	3.9	1	4.1	4.7	3.6	4.2
(5.2) Policy framework for gender equality	4.2	4.4	3	2.5	4.2	3.7	3.1	2.9	2.5	4.3	5	2	4	4.1	3.2	4.2
6. Macroeconomic policies and conditions for rural development																
(6.1) Monetary and exchange rate policies	3.3	2.3	3	2.8	2.9	3.6	3.2	3.7	2.7	3.1	3.8	1	3.7	3.3	3.7	2.8
(6.2) Fiscal Policy and Taxation	4	3.4	2.5	1.9	3.8	3.3	4	3.5	2.8	2.8	3.9	1	3.3	3.4	3.5	3.3
(6.3) Debt Policy	2.6	3.1	3	1.6	3.1	3.4	3.8	3.8	3.7	2.8	4.2	1	4	4.1	3.8	2.5
(6.4) Trade Policy	2.8	3.3	3.5	1.5	2.2	3.3	3.3	3.5	3.5	3.9	2.9	2	2.9	3.4	3.3	3
Average of all indicators	**3.3**	**3.2**	**3**	**1.9**	**3.5**	**3.9**	**3.5**	**3.4**	**3.5**	**3.6**	**4.1**	**1.9**	**3.7**	**3.7**	**3.7**	**3.3**

2018 RSPA scores – **LATIN AMERICA AND THE CARIBBEAN**

RSPA indicator	Argentina	Bolivia (Plurinational State of)	Brazil	Cuba	Dominican Republic	Ecuador	Guatemala	Guyana	Haiti	Mexico	Nicaragua	Peru
1. Policies and legal framework for rural organizations (ROs) and rural people												
(1.1) Policies and framework for rural development and rural poverty alleviation	4.7	4.5	4.3	4.6	4.7	4.1	4.4	3.8	3.4	4.4	4	3.5
(1.2) Legal frameworks for and autonomy of rural people's organizations	4.5	4.8	5.1	3.3	4.3	4.6	4.2	4.9	4	4.6	4.3	4.9
(1.3) Representation and influence of ROs and rural people	4.2	5	4.2	3.4	2.3	5	4.2	3.6	1.8	4.7	3.4	4.2
2. Rural governance, transparency and public administration												
(2.1) Quality and transparency of allocation of resources for rural development	3.6	4	4.1	3.5	2.6	3.8	3.8	2.2	2.4	3.3	3.8	3.6
(2.2) Accountability, transparency and corruption	4.7	3.5	4.1	2.9	3.9	3.8	2.7	4.7	2.6	3.9	3.2	3.9
3. Natural resources and environmental policies and practices												
(3.1) Environmental assessment policies and grievance mechanisms	4.2	4.7	5.1	3.8	3.8	4.3	4.9	3.1	3.7	4.1	2.8	4.4
(3.2) National climate change policies	3.9	3.7	3.8	3.8	4.2	3.6	4.2	4.1	3.5	4.1	3.4	4
(3.3) Access to land	4.8	4.6	5	3.3	3.4	5	4.4	3.2	3.9	4.7	3.4	4.8
(3.4) Access to water	3.6	3	3.9	4.9	3.7	4.8	3.1	4.6	2.7	3.9	3.5	4.2
4. Financial policy, access to services and markets												
(4.1) Access to and use of rural financial services	3.6	3.5	3.9	2.8	2.8	3.4	4.2	2.1	3.5	4.2	3.2	4.4
(4.2) Investment Climate for Rural Business	4.1	3	4	3.1	4	2.4	3.4	2.6	2.6	4.2	3.4	4
(4.3) Access to agricultural input and produce markets	4.7	3.7	3.6	2.2	4	3.8	3.5	3.9	3.4	3.9	2.6	3.9
(4.4) Access to extension services	5	4.7	5.1	4.4	4.1	5.1	4.7	2.9	4	5.1	3.8	4.7
5. Nutrition and gender equality												
(5.1) Nutrition policy framework and outcomes	4.4	4.2	5.1	4	3.9	4.8	4.5	3.1	3.6	5.3	4.8	5.2
(5.2) Policy framework for gender equality	5	5.1	4.2	5.4	4.4	4.9	3.8	4.1	3.4	4.9	4.6	4.2
6. Macroeconomic policies and conditions for rural development												
(6.1) Monetary and exchange rate policies	2.9	3.6	3.6	4.5	4.4	4.5	4.6	4.1	3.1	3.8	4.1	4.6
(6.2) Fiscal Policy and Taxation	3.4	4.2	3.8	4.4	3.8	3.8	3.5	3.9	3.4	4.3	3.7	4.2
(6.3) Debt Policy	3.3	3.6	2.7	3.3	3.4	2.8	3.6	4	3	4.3	4	4.1
(6.4) Trade Policy	3.6	3.3	3.6	3.7	4.1	3.7	4	3.6	3.9	4.3	3.8	4.8
Average of all indicators	**4.1**	**4**	**4.2**	**3.8**	**3.8**	**4.1**	**4**	**3.6**	**3.3**	**4.3**	**3.7**	**4.3**

2018 RSPA scores – **NEAR EAST, NORTH AFRICA AND EUROPE**

RSPA indicator	Djibouti	Egypt	Iraq	Jordan	Kyrgyzstan	Republic of Moldova	Morocco	Sudan	Syrian Arab Republic	Tajikistan	Tunisia	Turkey	Uzbekistan	Yemen
1. Policies and legal framework for rural organizations (ROs) and rural people														
(1.1) Policies and framework for rural development and rural poverty alleviation	3.7	4.1	4	4.1	3.8	5.1	4.5	3.5	2.4	4.3	4.7	4.3	4.4	1.8
(1.2) Legal frameworks for and autonomy of rural people's organizations	3.2	3.6	3.8	3.8	3.6	4.8	4.1	2.7	1.3	3	4.5	3.2	2.6	2.7
(1.3) Representation and influence of ROs and rural people	1	3.3	3.4	3.4	3.9	4.7	4.2	3.1	2.6	3.6	3.4	3.9	2.8	3.9
2. Rural governance, transparency and public administration														
(2.1) Quality and transparency of allocation of resources for rural development	3.1	3.3	2.8	2.7	3	3	2.8	3.2	1.3	1.3	2.8	2.6	2.1	1.3
(2.2) Accountability, transparency and corruption	2.5	3	2	3.7	2.9	3.8	3.5	3	1.3	1.8	4.2	3.3	1.6	1.5
3. Natural resources and environmental policies and practices														
(3.1) Environmental assessment policies and grievance mechanisms	3.9	4.4	4	2.9	4.3	4.9	4.4	3	2.5	3.7	3.3	4.2	3.4	4.1
(3.2) National climate change policies	4.5	4.1	3.6	4.6	2.6	4.5	4.7	3.9	1.9	3.2	4.4	3.9	4	2.1
(3.3) Access to land	3	3.7	2.7	3.5	4.8	5	4.8	3	2	4.5	4.1	3.3	3.2	3.6
(3.4) Access to water	4.1	4.6	4.1	4	4.6	4.5	4.9	3.2	4.1	4.2	4.1	4	4.2	3
4. Financial policy, access to services and markets														
(4.1) Access to and use of rural financial services	1.4	3.2	1.9	4.2	4.4	2.8	3.6	2.6	1.9	4.4	3.2	4	2.5	1.9
(4.2) Investment Climate for Rural Business	3.1	3.8	3.2	3.7	2.2	3.4	3.4	3.9	3.2	2.1	4.4	4.4	3.3	3.2
(4.3) Access to agricultural input and produce markets	1.9	3.6	3.7	3.4	4.2	4.9	3.6	3	3.2	4.2	3.9	3.7	3.4	3.5
(4.4) Access to extension services	4.1	3.3	2.8	4	3.5	4.7	3.7	3.1	4	2.7	4.7	4.6	2.7	3.8
5. Nutrition and gender equality														
(5.1) Nutrition policy framework and outcomes	3.2	3.8	4.4	4.6	5.1	4.8	5.3	4.2	1.8	3.8	5	3.9	3.7	2.7
(5.2) Policy framework for gender equality	3.2	3.1	3.8	3.5	3.1	4.8	4.1	2.8	2.1	4.3	3.6	3.3	3.3	2
6. Macroeconomic policies and conditions for rural development														
(6.1) Monetary and exchange rate policies	4.1	3.5	4.8	3.8	3.7	3.7	4	2.4	1.9	3.5	3.2	3.6	4	2.6
(6.2) Fiscal Policy and Taxation	3.9	3.1	3.8	3.9	4.1	4.5	3.8	2.9	1.7	3.8	3.8	4.1	4.2	2.9
(6.3) Debt Policy	3.3	3.4	3.6	3.3	3.4	3.4	3.7	1.6	2.7	3.4	3.4	3.5	4	2.8
(6.4) Trade Policy	2.9	3.7	2.7	4.3	4.4	4.5	3.7	2.4	2.2	3.7	3.5	4.6	2.2	3.6
Average of all indicators	**3.2**	**3.6**	**3.4**	**3.8**	**3.8**	**4.3**	**4**	**3**	**2.3**	**3.5**	**3.9**	**3.8**	**3.2**	**2.8**

2018 RSPA scores – **WEST AND CENTRAL AFRICA**

RSPA indicator	Benin	Burkina Faso	Cameroon	Central African Rep	Chad	Congo	Democratic Republic of the Congo	Côte d'Ivoire	Gabon	Gambia (The)	Ghana	Guinea	Guinea-Bissau	Liberia
1. Policies and legal framework for rural organizations (ROs) and rural people														
(1.1) Policies and framework for rural development and rural poverty alleviation	3.1	2.9	3.8	3.1	2.9	4.6	3.3	4.6	4.8	3.6	4.2	3.9	3.2	3.6
(1.2) Legal frameworks for and autonomy of rural people's organizations	3.3	3.1	3.3	2.1	2.7	2.9	2.7	4.3	3	3.3	4.5	3.8	2.5	2.8
(1.3) Representation and influence of ROs and rural people	4.7	5	5	3.9	3.4	1.5	1	3.5	1	4.2	4.2	1.8	3.6	2
2. Rural governance, transparency and public administration														
(2.1) Quality and transparency of allocation of resources for rural development	3.4	4.1	2.6	1.6	2.9	2.9	2	3.3	3.3	3	2.8	3.6	2	1.6
(2.2) Accountability, transparency and corruption	4.2	3.7	2.4	1.6	1.8	1.9	1.5	3.2	2.5	2.8	4.8	2.3	1.5	3.3
3. Natural resources and environmental policies and practices														
(3.1) Environmental assessment policies and grievance mechanisms	3.5	4	3.7	3.3	3.8	3.2	3.7	4.5	3.6	4	4.7	3.9	2.5	4.4
(3.2) National climate change policies	2.7	4.6	4.6	4.4	4.4	3.6	2.7	3.9	3.7	2.9	4.5	4.7	4.5	3.1
(3.3) Access to land	3.9	3.8	2.4	2.7	2.4	4.1	2.4	4.5	2.9	3.2	3.9	3.5	3.9	3.4
(3.4) Access to water	3.9	3.6	3.1	3.5	4.2	3.1	2.9	3.3	2.9	3.7	4	3.1	3.4	2.5
4. Financial policy, access to services and markets														
(4.1) Access to and use of rural financial services	2.9	3	1.9	1.8	1.4	2.1	3.1	2.7	2.5	2.3	4.2	2.8	2	3.5
(4.2) Investment Climate for Rural Business	3.7	3.8	3.5	2.1	3.1	1.6	1.8	3.2	3	3.3	4.1	3.1	3.5	2.5
(4.3) Access to agricultural input and produce markets	2.9	4.1	4.2	3.3	4.6	3.5	3.6	3.5	3.8	3.8	3.1	3.4	4	2.3
(4.4) Access to extension services	4.4	4.8	3.8	1.7	2.4	1.7	2.9	4.1	3.3	2.5	5.1	4.3	1.7	4.8
5. Nutrition and gender equality														
(5.1) Nutrition policy framework and outcomes	4	4.4	4.3	3.2	3.1	3.6	3.8	4.3	4.5	4	4.6	3.7	4	2.3
(5.2) Policy framework for gender equality	3.1	2.8	3.8	3	2.7	3.4	1.7	3.2	2.2	2.6	3.4	3.4	3.5	2.9
6. Macroeconomic policies and conditions for rural development														
(6.1) Monetary and exchange rate policies	3.5	4.4	4.5	3.7	3.1	3.6	2.9	4.4	4.2	2.6	3.6	2.5	3	2.8
(6.2) Fiscal Policy and Taxation	3.2	3.8	3.2	3.3	3.1	2.8	3.2	3.5	3.8	3.5	3.5	3	2.5	4.1
(6.3) Debt Policy	4	4.2	4	2.5	2.5	2.9	4.3	3.8	3.4	2.5	3.6	3.8	2.5	3.7
(6.4) Trade Policy	4	4	2.2	2.9	2.2	3.6	2.6	4.1	3.3	2.8	3.4	3.5	4	3.6
Average of all indicators	**3.6**	**3.9**	**3.5**	**2.8**	**3**	**3**	**2.7**	**3.8**	**3.2**	**3.2**	**4**	**3.4**	**3**	**3.1**

to be continued

2018 RSPA scores – **WEST AND CENTRAL AFRICA** (*cont.*)

RSPA indicator	Mali	Mauritania	Niger	Nigeria	Sao Tome and Principe	Senegal	Sierra Leone	Togo
1. Policies and legal framework for rural organizations (ROs) and rural people								
(1.1) Policies and framework for rural development and rural poverty alleviation	3.9	4.2	3.4	3.5	4.2	3.4	3.8	3.6
(1.2) Legal frameworks for and autonomy of rural people's organizations	3.5	4.1	3.2	4.1	3.8	4	3.4	3
(1.3) Representation and influence of ROs and rural people	3.6	2.6	4.2	3.6	3.4	3.8	2.3	3.6
2. Rural governance, transparency and public administration								
(2.1) Quality and transparency of allocation of resources for rural development	4	3.5	4.2	2.5	4.1	3.2	3.3	3.4
(2.2) Accountability, transparency and corruption	3.2	2.6	3.2	3	4.6	4.4	3.7	3.1
3. Natural resources and environmental policies and practices								
(3.1) Environmental assessment policies and grievance mechanisms	3.9	3.9	3	4	3.7	3.9	3.8	3.7
(3.2) National climate change policies	4.2	4.6	3.9	2.6	4	4.1	3.8	4.3
(3.3) Access to land	3.9	3.2	3.8	2.9	3.1	2.7	2.9	3.3
(3.4) Access to water	3.6	3.9	3.3	3.7	4.7	4.2	3.5	3
4. Financial policy, access to services and markets								
(4.1) Access to and use of rural financial services	2.6	1.5	2.6	3.9	1.7	3.3	3.2	3.1
(4.2) Investment Climate for Rural Business	4.3	1.8	1.8	3	1.8	2	1.9	3.8
(4.3) Access to agricultural input and produce markets	3.5	3.8	4.1	4	3.8	4.5	3.5	4
(4.4) Access to extension services	1.7	5.3	3.8	4.4	3.2	2.8	5	1.8
5. Nutrition and gender equality								
(5.1) Nutrition policy framework and outcomes	3.8	4.2	3.3	4.5	3.9	4.3	4	3.5
(5.2) Policy framework for gender equality	2.5	3.3	2.8	3	3.3	4.3	2.6	3.7
6. Macroeconomic policies and conditions for rural development								
(6.1) Monetary and exchange rate policies	4.4	2.8	3.1	4.1	4	4.1	2.7	3.2
(6.2) Fiscal Policy and Taxation	3.5	3.7	3.6	2.9	4.1	3.5	3.5	3.3
(6.3) Debt Policy	4.5	3.2	3.9	4.6	3.3	3.8	3.7	2.8
(6.4) Trade Policy	3.8	3.7	3.4	3	3	3.7	3.2	2.9
Average of all indicators	**3.6**	**3.5**	**3.4**	**3.5**	**3.6**	**3.7**	**3.4**	**3.3**

ANNEX B Geospatial data processing

To create a typology of the rural opportunity space (ROS), the *Rural Development Report 2019* uses commercialization potential and agricultural production potential as the two axes of the opportunity space (Wiggins and Proctor, 2001; Ripoll et al., 2017).[52] Commercialization potential is proxied by population density data drawn from the WorldPop project, while agricultural potential is proxied by the Enhanced Vegetation Index (EVI), which is based on satellite observations.[53] The ROS is employed at both the global level and the household level in the report. The details of how geospatial data were processed for these analyses are presented below.

Global ROS analyses

The WorldPop project was launched in July 2009 with the aim of producing detailed and freely available population distribution maps. It provides 1-km and 100-m spatial resolution (i.e. the edge length of a single grid cell) population density maps (number of people per grid cell) for each country in sub-Saharan Africa (SSA), Latin America and the Caribbean (LAC), and Asia and the Pacific (APR). The production of the WorldPop spatial datasets generally follows the methodologies outlined in Tatem et al., 2007; Gaughan et al., 2013; Alegana et al., 2015; and Stevens et al., 2015.[54, 55] In most countries, population estimations exist for two epochs, namely 2010 and 2015. WorldPop also includes age- and gender-differentiated spatially explicit information on population distributions, albeit these are at a 1-km spatial resolution (unlike the population densities, which are also provided at a 100-m resolution). Given the 2019 report's focus on age- and gender-differentiated distributions of rural youth over the ROS, data with a 1-km resolution were used to define the commercialization potential using population densities over the rural-urban gradient at the global level.

In order to define a globally comparable scale, all numeric values of the grids in the data were ordered from least to most dense, and population was successively summed to create four groups (quartiles) with populations of equal size, ranging from the least to the most densely settled areas, to create a rural-urban gradient. The least dense quartile corresponds to rural areas and the densest quartile to urban areas. In between are the semi-rural (second quartile) and peri-urban (third quartile) areas. The bottom three population density quartiles (rural, semi-rural and peri-urban areas) are referred to as rural (i.e. non-urban) in this report. Rural, semi-rural and peri-urban areas, respectively, represent the categories of *low, medium and high commercial potential* on the vertical axis of the global ROS.

For the agricultural potential axis of the ROS, Moderate Resolution Imaging Spectroradiometer Enhanced Vegetation Index (MODIS-EVI) grids with a 250-m resolution were resampled to 1 km using a nearest neighbour algorithm to match the resolution of age- and gender-disaggregated WorldPop grids. Several pre-processing steps reduced the effects of residual clouds and shadows, dust, aerosols, off-nadir viewing and low sun zenith angles in the EVI data. First, pixels that were flagged as no data, snow/ice or cloud in the MOD13Q1 pixel reliability layer prior to filtering, based on MODIS quality assurance information, were excluded. Only pixels labelled as "good data" or "marginal data" were retained, i.e. pixels in the quality layer that were flagged as either zero or one. Second, data gaps were linearly interpolated. Third, the time series were smoothed using the Savitzky-Golay approach (Chen et al., 2016).[56] Fourth, EVI values were used only for land classified as cropland or pastureland. To do so, a new global map of cropland/pastures was created by fusing two existing maps (Waldner

52 S. Wiggins and S. Proctor, 2001. How Special Are Rural Areas? The economic implications of location for rural development. *Development Policy Review*, 19 (4): 427-436; S. Ripoll, J. Andersson, L. Badstue, M. Büttner, J. Chamberlin, O. Erenstein and J. Sumberg, 2017. Rural Transformation, Cereals and Youth in Africa: What role for international agricultural research? *Outlook on Agriculture*, 46 (3): 1-10.

53 https://lpdaac.usgs.gov/dataset_discovery/modis/modis_products_table/mod13q1_v006_.

54 A.J. Tatem, A.M. Noor, C. von Hagen, A. Di Grigorio and S.I. Hay, 2007. High-Resolution Population Maps for Low-Income Nations: Combining land cover and census in East Africa. *PLoS One*, 2: 34-36; A.E. Gaughan, F.R. Stevens, C. Linard, P. Jia and A.J. Tatem, 2013. High-Resolution Population Distribution Maps for Southeast Asia in 2010 and 2015. *PLoS One*, 8.; V.A. Alegana, P.M. Atkinson, C. Pezzulo, 2015. Fine Resolution Mapping of Population Age-Structures for Health and Development Applications. *Journal of the Royal Society Interface*, 12:20150073-20150073.; F.R. Stevens, A.E. Gaughan, C. Linard and A.J. Tatem, 2015. Disaggregating Census Data for Population Mapping Using Random Forests with Remotely-Sensed and Ancillary Data. *PLoS One*, 10:e0107042.

55 For further details and publications, see: http://www.worldpop.org.uk/data/methods/.

56 J. Chen, P. Jönsson, M. Tamura, Z. Gu, B. Matsushita and L. Eklundh, 2004. A Simple Method for Reconstructing a High-Quality NDVI Time-Series Data Set Based on the Savitzky-Golay Filter. *Remote Sensing of Environment*, 91: 332-344 (doi:10.1016/j.rse.2004.03.014).

et al., 2016; GFSAD, 2010).[57] By doing so, the analysis was spatially targeted at agricultural land, and production potential could then be proxied. Finally, average EVI values for the three-year period between 2013 and 2015 were alculated to avoid seasonality and agroclimatic variation. EVI grids (the same as the WorldPop grids) were ordered from lowest to highest, with each of the three groups (terciles) containing one third of all the non-urban space and representing the categories of *low, medium and high agricultural potential* on the horizontal axis.

Using the above data, the number and share of rural (non-urban) youth in each of the ROS categories were calculated, and these data were then used in the analyses presented throughout the report.

Household-level ROS analyses

The household-level data used in the report cover over 765,000 individuals (128,227 of whom were classified as rural youth, representing around 134 million young people in rural areas) in 12 countries across 3 regions (SSA, APR and LAC). These data were used to analyse the ways in which these young people and their families are engaging with the economy and to position them in the ROS using the available georeferenced information about the administrative layer with the highest spatial resolution (this varied across surveys).

Household data for sub-Saharan Africa (SSA) were drawn from the Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA) data, all of which provide georeferenced information (i.e. the centroids) for each enumeration area (EA) in the sample. Using the number of dwellings and the average household size in each EA, the total population of the average EA in each country was calculated. Using the known population distribution from the WorldPop data, a boundary was then drawn around the EA centroid to capture a population of this size, which created artificial EA boundaries. The population density of each EA was calculated and then classified on the basis of the population density quartiles along the rural-urban gradient (using the global threshold defined above): Q1=Rural, Q2=Semi-Rural, Q3=Peri-Urban, Q4=Urban. The artificial boundaries created for each EA were also used to calculate the average value of the EVI for the 2013-2015 period (because most LSMS-ISA data were collected in 2014 or 2015), as described above.

For APR and LAC, household data sources do not include georeferenced information. Centroids of municipalities or other small administrative units and, in some cases, boundaries (polygons) for relatively small administrative areas obtained from the DIVA-GIS database were therefore used to repeat the above process to create the ROS variables for each household.

Household-level information was combined with the above georeferenced information in order to assign each household (and the young people within them) to one of the categories of the ROS as defined in figure 2.4. This information was then used in analyses designed to afford a fuller understanding of how the ROS affects school-to-work transitions and the labour force participation rates of youth versus adults (along with gender differentiation).

57 F. Waldner, S. Fritz, A. Di Gregorio, D. Plotnikov, S. Bartalev, N. Kussul, P. Gong et al., 2016. A Unified Cropland Layer at 250 m for Global Agriculture Monitoring. *Data*, 1:3 (doi:10.3390/data1010003); Global Food Security-Support Analysis Data (GFSAD): https://www.usgs.gov/centers/wgsc/science/global-food-security-support-analysis-data-30-m?qt-science_center_objects=0#qt-science_center_objects.

ANNEX C Definition of variables and methodology

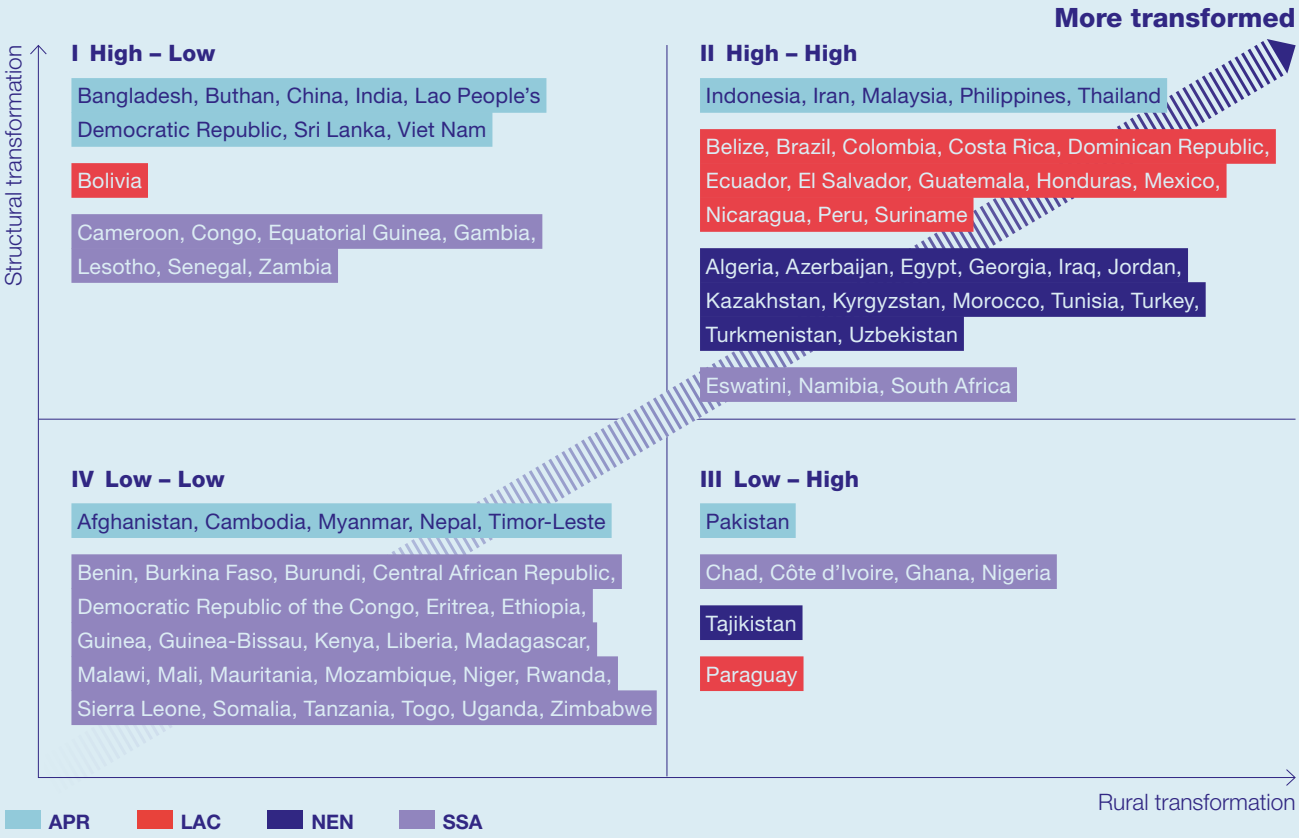
The *Rural Development Report 2019* makes use of macro- and micro-level data to analyse the level of transformation of the countries where young people live (*country transformation typology*), determine the nature of their opportunity matrix (*rural opportunity space*) and examine the characteristics of the households to which they belong (*household transformation categories*). These three typologies, taken together, provide information about the opportunities open to rural youth and the challenges that they face. This information can then be used as inputs for a systematic approach to the design of policies and programmes for fostering youth-centred rural transformation.

Macro-level analysis

At the macro level, data from 85 countries in Asia and the Pacific (APR), sub-Saharan Africa (SSA), the Near East, North Africa, Central Asia and Europe (NEN), and Latin America and the Caribbean (LAC) were used to analyse the rural and structural transformation processes and economic and institutional indicators of the countries where rural youth live. The sample includes all low- and middle-income countries[58] except small island nations, resource-dependent nations and countries for which information was not available.

TABLE 1 Country transformation typology

Country transformation typology



Notes: APR: Asia and the Pacific; LAC: Latin America and the Caribbean; NEN: Near East, North Africa, Europe and Central Asia; SSA: sub-Saharan Africa. Countries are classified as having attained a relatively high degree of rural transformation if their value added per worker exceeds the sample median (US$1,592) and as having attained a relatively high degree of structural transformation if the share of non-agricultural value added exceeds the sample mean (80%). The sample consists of 85 low- and middle-income countries as defined by the World Bank (2018).
Source: Authors.

58 Low- and middle-income countries are defined on the basis of the World Bank classification for 2018.

Country transformation typology

This report uses two variables[59] to define levels of structural transformation (ST) and rural transformation (RT):

- ST: Non-agricultural value added (percentage of GDP)
- RT: Agricultural value added per worker (constant 2010 US$)

The country typologies were defined on the basis of a combination of the level (high/low) of these measures relative to the global median (for RT) and global average[60] (for ST) using the latest value available (data for 2016 in 90 per cent of the cases).[61]

The variables listed to the right are also used in discussing the country-level challenges and opportunities for rural youth in all 85 low- and middle-income countries included in the analysis:

Variable	Source	Year
Rural and urban poverty headcount ratio	*Rural Development Report 2016*, World Bank	Measured at 2011 $ in PPP
Income per capita in constant 2010 PPP US$	World Development Indicators (WDI), World Bank	
Government Effectiveness percentile rank	Worldwide Governance Indicators (WGI), World Bank	
Countries in a conflict situation	Brueck et al., 2018	
Countries with fragile situations	Harmonized List of Fragile Situations, World Bank	
Youth population share	*World Population Prospects: The 2017 Revision*, United Nations	1950-2050
Rural youth population share	*World Urbanization Prospects: The 2017 Revision*, United Nations	1985-2015

Micro-level analysis

At the micro level, this report uses socio-economic household surveys from national statistical offices, combined with geographic variables explained in detail in annex B. With the exception of the Indonesia Family Life Survey,[62] all the surveys are nationally representative and cover both urban and rural areas. Household and individual-level data are collated for 13 countries in the three main regions of SSA, LAC and APR (see **TABLE 2**).

59 Source: World Development Indicators, World Bank.

60 Resource-rich countries were excluded in order to avoid artificially increasing the value of the global mean and median. A country is defined as being resource-rich if the share of rents from natural resources other than forest resources amounts to more than 12 per cent of total GDP. Resource-rich countries were then classified as being at a high or low level of ST based on the non-resource, non-agricultural share of their non-resource GDP.

61 The countries for which the latest available data were for a different year are: Tajikistan (2015), Belize (2015 for ST) and Tunisia (2015 for RT).

62 The Indonesia Family Life Survey is based on a sample of households representing about 83 per cent of the Indonesian population.

TABLE 2 Microdata sources and sample sizes

Country	Survey	Source	Year	No. of households (individuals)	Geo-locations
Sub-Saharan Africa					
Ethiopia	Ethiopia – Socioeconomic Survey	Central Statistical Agency of Ethiopia (CSA)	2015/2016	4,954 (23,393)	Enumeration areas (EAs) – geocoded
Malawi	Fourth Integrated Household Survey	National Statistical Office (NSO) – Ministry of Economic Planning and Development	2016/2017	12,447 (53,885)	EAs – geocoded
Niger	National Survey on Household Living Conditions and Agriculture – Panel data	Survey and Census Division – National Institute of Statistics	2014	3,617 (22,671)	EAs – geocoded
Nigeria	General Household Survey – Panel data	National Bureau of Statistics (NBS) – Federal Government of Nigeria	2015/2016	4,291 (24,807)	EAs – geocoded
United Republic of Tanzania	National Panel Survey	National Bureau of Statistics – Ministry of Finance and Planning	2014/2015	3,352 (16,285)	EAs – geocoded
Uganda	The Uganda National Panel Survey	Uganda Bureau of Statistics – Government of Uganda	2013/2014	1,561 (9,373)	EAs – geocoded
Latin America and the Caribbean					
Mexico	Encuesta nacional de ingresos y gastos de los hogares	Instituto Nacional de Estadística y Geografía, MEX-INEGI.40.202.03-ENIGH-2016-NS	2016	69,939 (256,448)	EAs – geocoded
Nicaragua	Encuesta nacional de hogares sobre medición de nivel de vida	Instituto Nacional de Información de Desarrollo	2014	6,851 (29,381)	Municipality geocodes identified
Peru	Encuesta nacional del hogares 2016 (Annual) – Condiciones de vida y pobreza	Instituto Nacional de Estadística e Informática	2016	35,785 (134,235)	EAs – geocoded
Asia					
Bangladesh	Household Income and Expenditure Survey	Bangladesh Bureau of Statistics – Ministry of Planning	2010	12,240 (55,580)	Upazila geocodes identified
Cambodia	Cambodia Socio-Economic Survey	National Institute of Statistics – Ministry of Planning	2014	12,090 (53,968)	Village geocodes identified
Indonesia	Indonesia Family Life Survey	J. Strauss, F. Witoelar and B. Sikoki. "The Fifth Wave of the Indonesia Family Life Survey (IFLS5): Overview and Field Report". March 2016. WR-1143/1-NIA/NICHD.	2014	15,881 (58,312)	EA – geocoded[63]
Nepal	Nepal Living Standards Survey	Central Bureau of Statistics – National Planning Commission Secretariat, Government of Nepal	2010	5,988 (28,670)	Village geocodes identified

63 Geo-locations for the enumeration areas of IFLS-5 were obtained from the RAND Cooperation, which the authors wish to thank for its cooperation. All SSA datasets are from the World Bank's Living Standards Measurement Study – Integrated Studies on Agriculture (LSMS-ISA). The ongoing support provided by the LSMS team during the compilation work is gratefully acknowledged.

Rural opportunity space

A typology of rural opportunity spaces was created for the *Rural Development Report 2019* using two main variables: commercialization potential and agricultural production potential (Wiggins and Proctor, 2001; Ripoll et al., 2017). Data for the commercialization potential indicators were drawn from the WorldPop project (population densities). Data for agricultural potential were obtained by using the Enhanced Vegetation Index (EVI) to classify land as cropland or pastureland.

A systematic method was used to merge the population density data with the geographic locations of households obtained from survey data. In SSA, artificial boundaries were drawn around the georeferenced centroids for each enumeration area (EA) in order to capture the average EA population from the survey data based on the known densities taken from WorldPop data.

In APR, with the exception of Indonesia, and in LAC, the household data do not include georeferenced information, but GIS layers from DIVA were used to obtain centroids for municipalities/other small units with boundaries for relatively small administrative areas. The analyses presented in this report include any dataset with boundary data for an administrative unit whose average size is 1,000 square km or less.[64]

The rural-urban (i.e. rural, semi-rural, peri-urban and urban) gradients correspond to the population density quartiles for all low- and middle-income countries. The least dense quartile corresponds to rural areas and the densest quartile to urban areas. In between there are the semi-rural (second quartile) and peri-urban (third quartile) areas. Each EA has been classified along the rural-urban gradient and matched up with its level of commercialization/connectivity potential.

The EVI, which is a measure of the density of green vegetation, was used as a proxy for agricultural production potential. Global land use layers were used to isolate cropland and grazing land in order to exclude very densely forested areas and water bodies from the indicator. In order to avoid annual variability in the EVI caused by rainfall and temperature fluctuations and the impacts of extreme weather events, a three-year average EVI value was computed. The vegetation density was then divided into terciles in order to obtain agricultural potential gradients. The combination of the EVI terciles and the three lowest population density quartiles (rural, semi-rural and peri-urban) generates the different categories of the rural opportunity space typology. For technical details on the geospatial data that were used to develop this typology, see annex B.

Household transformation categories

The third typology used in the *Rural Development Report 2019* employs data at the household level. The household transformation categories capture the capacity of households to commercialize their agricultural production activities (akin to *rural transformation* at the household level) and their ability to diversify their sources of income towards more profitable non-farm activities (akin to *structural transformation* at the household level). The first indicator is calculated as the share of farm sales over total farm income. The second is the share of non-farm income over total income. Household income aggregates are constructed based on the Rural Income Generating Activities (RIGA) methodology, as follows:[65]

- Total income includes crop production, wage income, self-employment income from non-agricultural activities and other types of income (transfers, non-farm rent income, real estate, etc.).
- Farm income includes income from harvests, forestry, livestock and livestock products (milk, eggs, etc.).
- Agricultural income was computed by applying estimated prices for crop sales to the net (excluding crop losses) harvested quantity.
- Non-farm income includes non-agricultural wages, non-agricultural enterprise income and other kinds of income.

64 This size makes it possible to fully contain the administrative unit within a circle around the unit's centroid having a 50-km radius.

65 See http://www.fao.org/economic/riga/riga-database/en/.

Total income was decomposed into its various sources in order to measure each activity's contribution to the total value. The components of income that were considered were:

+ Own household agricultural production
+ Household enterprises
+ Wage earnings
+ Non-employment income (transfers, rental income, etc.)

Household welfare was measured using two proxies: per capita household expenditure and poverty headcount ratio at the international[66] poverty line ($1.90 a day 2011 PPP). All monetary values are expressed in per capita terms per day in PPP (constant 2011 international $). An imputation technique called winsorizing was applied to treat outliers; this involved replacing all the values above the 99th percentile of the distribution for each income component with the highest value within the 99th percentile. For the aggregate income variables, all the extreme values (above the 99th percentile and below the 1st percentile) were replaced with missing values to address outliers.

Other descriptive variables

Apart from the variables used to compute the three sets of typologies, additional data were processed in order to compile information on the demographic characteristics of the youth population, young people's level of education and their employment status. Specifically, labour force participation and the amount of time spent working in each type of employment activity were calculated for six sectoral and functional categories. The six sectoral and functional categories for which full-time equivalents (FTEs) were measured were: own farm work, on-farm agrifood system (AFS) wage labour, off-farm AFS wage labour, non-AFS wage labour, AFS enterprise work and non-AFS enterprise work.

The amount of time devoted to work in each of these categories was calculated using the concept of full-time equivalents (FTEs), which makes it possible to compare workloads across different contexts and sectors. The computation of FTEs shows how much of a household member's total labour availability (considered to be 40 hours per week) is allocated to each employment activity. A full-time work schedule is assumed to be equivalent to 12 months per year, 4.3 weeks per month and 40 hours per week. With the exception of two countries, FTEs are computed at the annual level by dividing the total number of hours worked during the year by the total labour availability (2,016 hours). In Mexico and Peru, due to data constraints, FTEs are computed on a weekly basis.[67] This indicator can range from 0 to 2; an FTE equal to 1 corresponds to full-time work, while an FTE of less than 1 signals underemployment and an FTE greater than 1 represents overemployment. This approach delivers higher estimates of workforce participation than standard labour market measures do and does not measure unemployment, since that cannot be defined for a 12-month reference period.

66 With the exception of Indonesia, where the poverty rate is based on the national poverty line due to issues with the consumption data.

67 In Mexico, the corresponding question refers to the number of hours worked per week during the last month; in Peru, it is based on the last week prior to the interview.

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