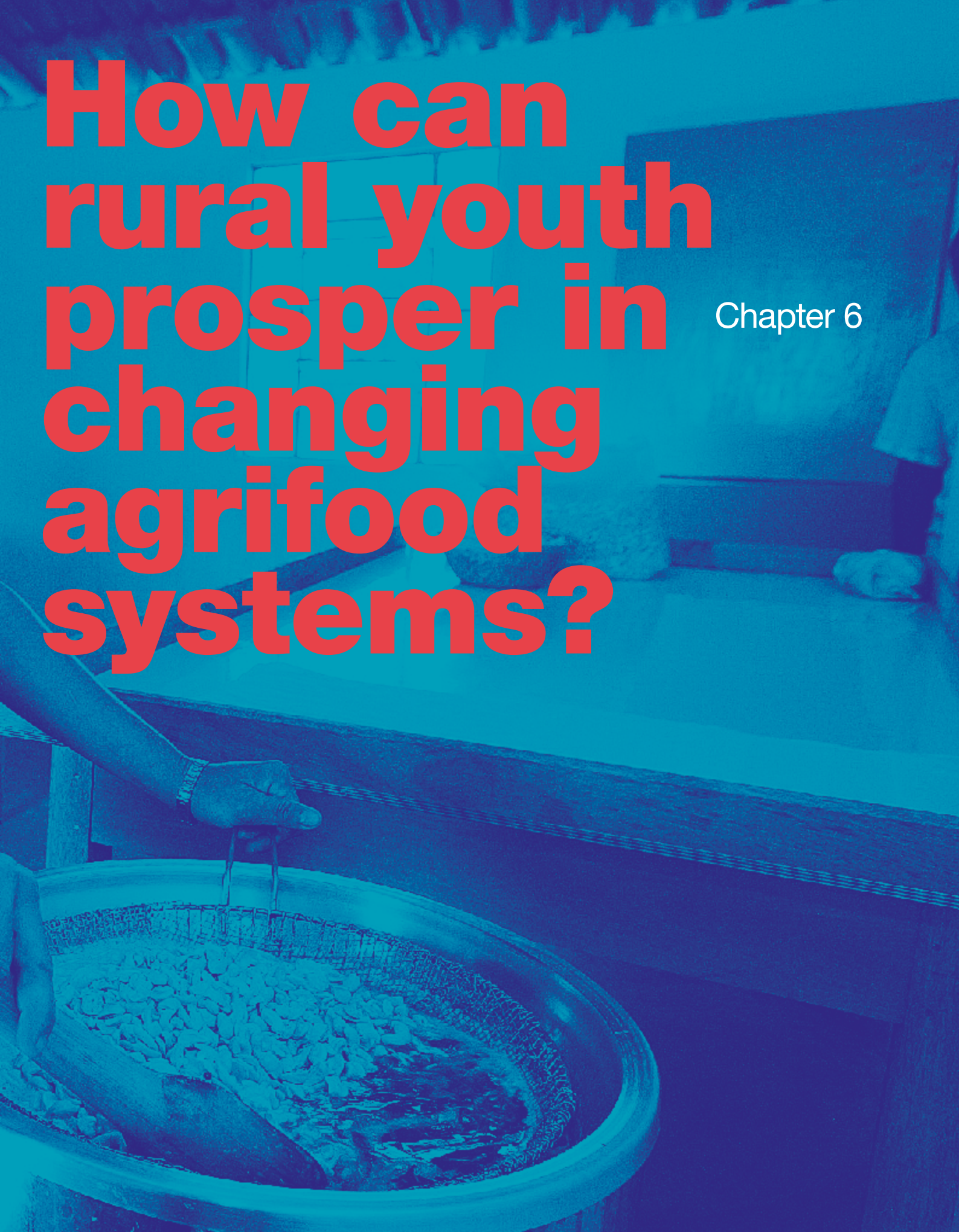






# How can rural youth prosper in changing agrifood systems?

Chapter 6



**A**s 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 (Berdegue 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 (Tschorley, 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.

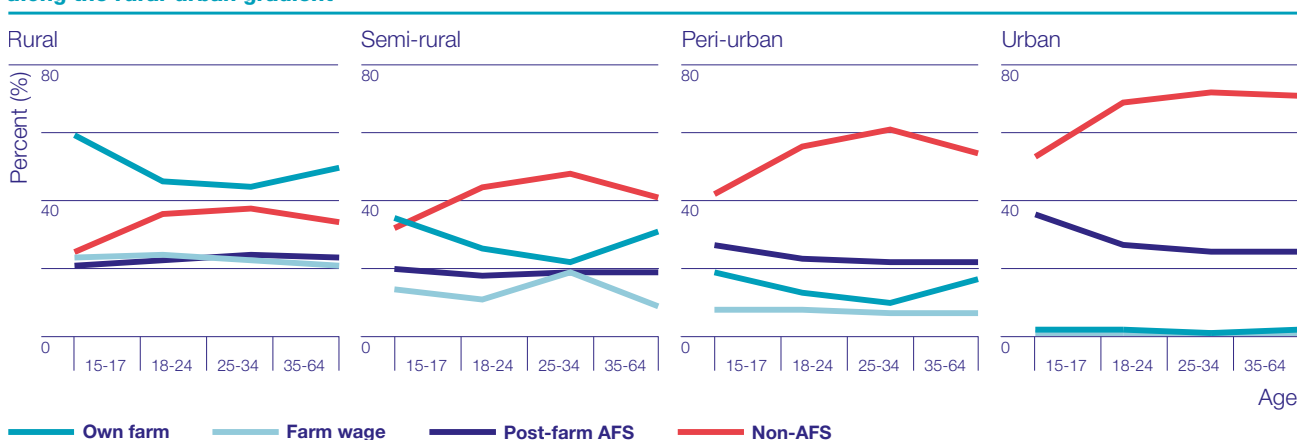
## The agrifood system is a key livelihood channel for rural youth

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.

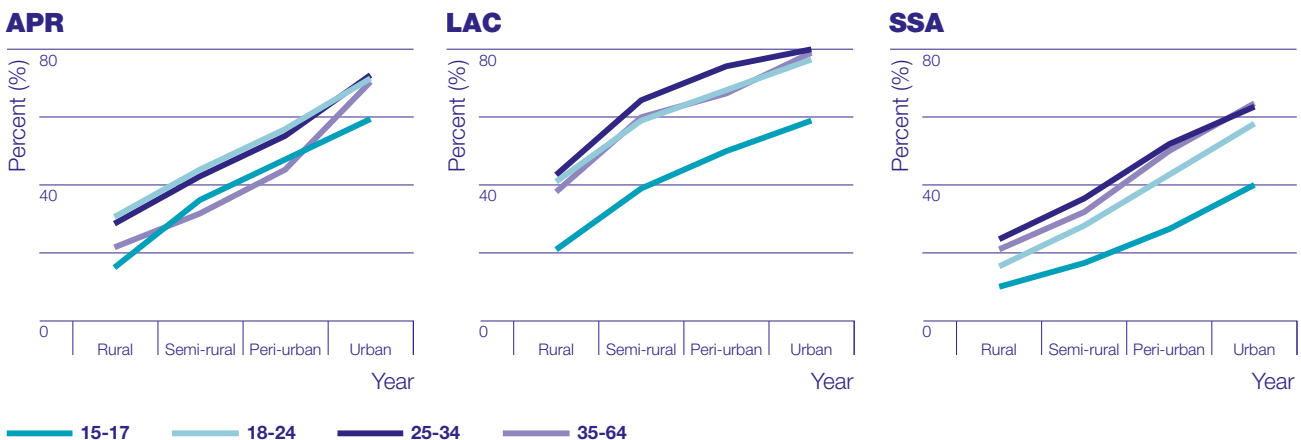
### Youth in Asia have better access to work outside the agrifood system than youth in other developing regions

Wage labour outside the agrifood system generally delivers the highest returns to labour (Tschorley, 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.

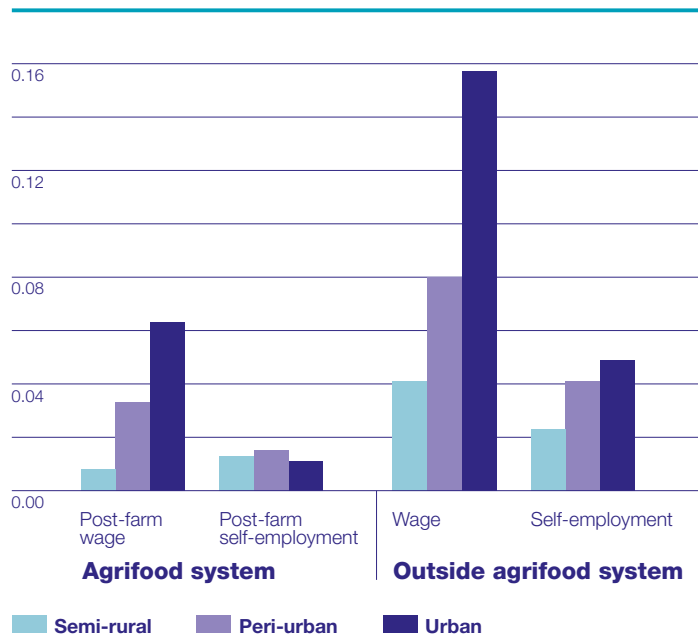


### More educated and older male workers engage in wage work outside the agrifood system more than other workers

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

**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.

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.

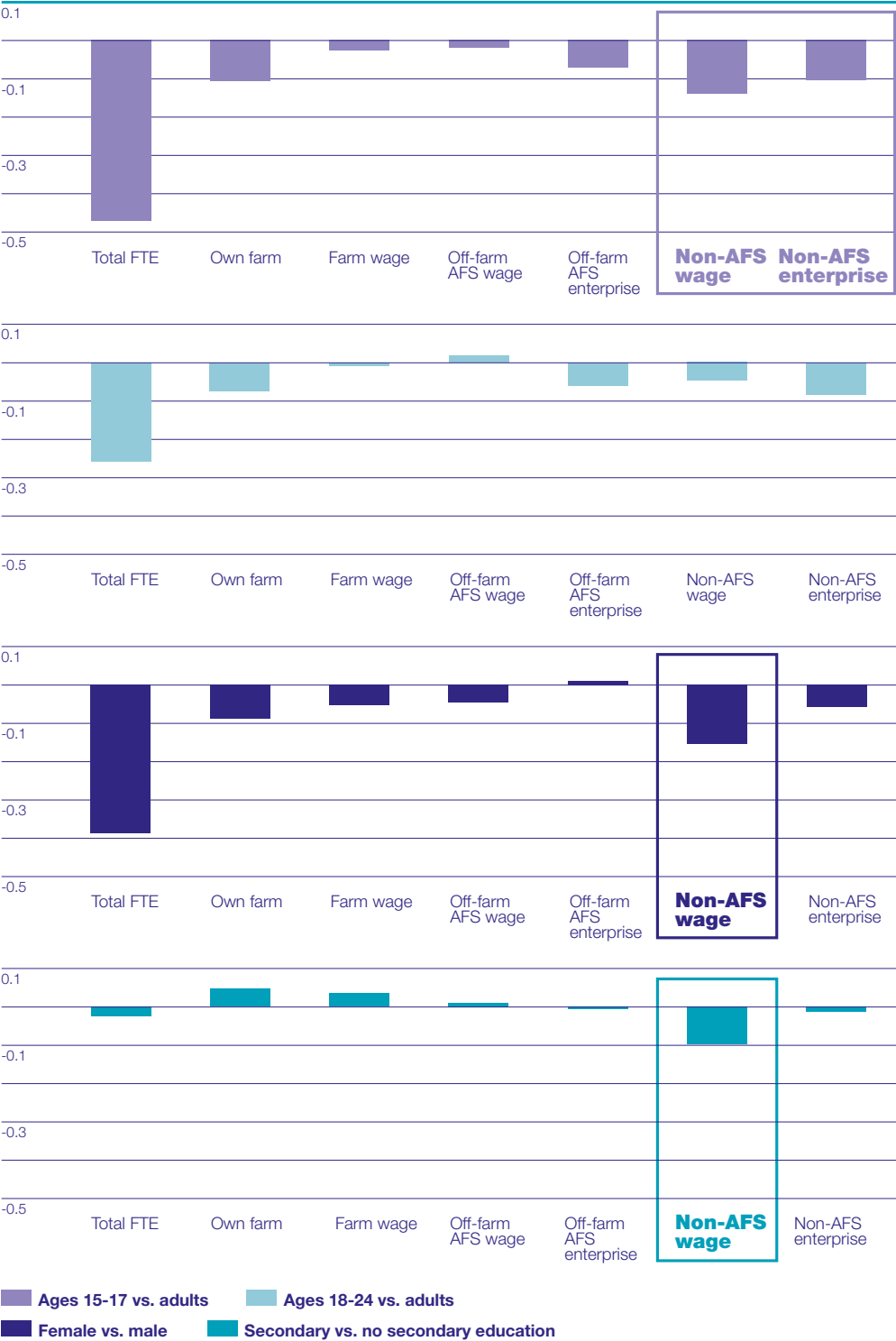
One pattern evident in the regression results that was expected but whose magnitude is surprising is that work off the farm increases as population densities rise. The strong upswing in this category is driven primarily by a skyrocketing supply of wage work, especially wage work outside the agrifood 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; Mdoo 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.

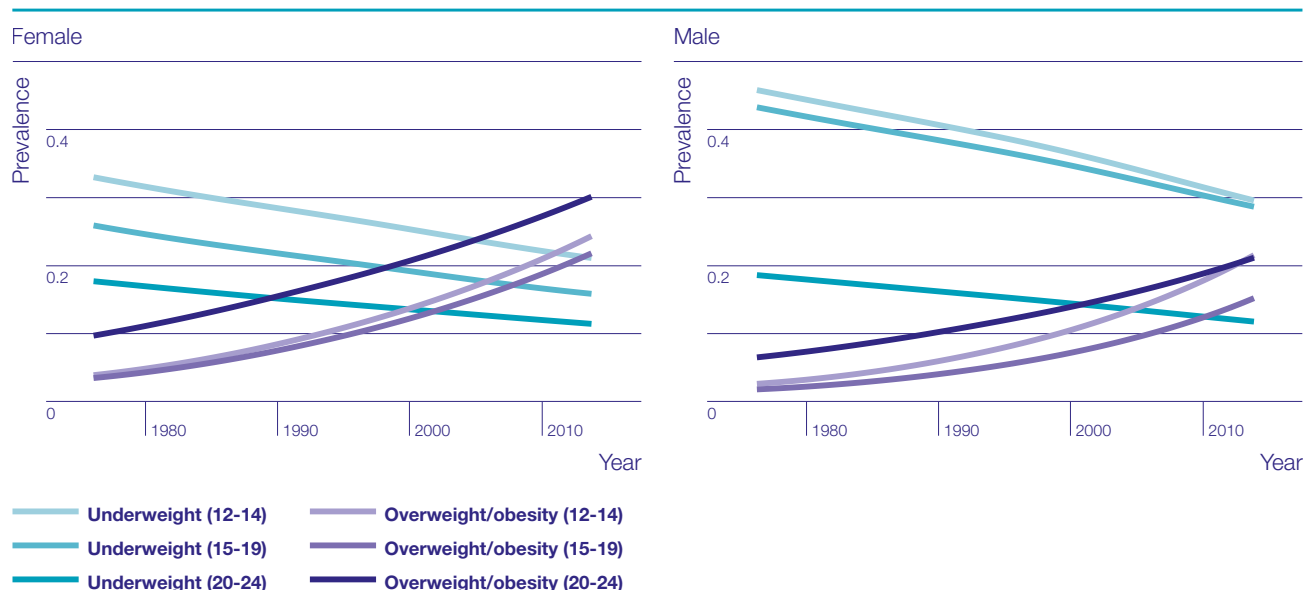
### **The rural transformation process has given rise to a double burden of malnutrition for rural youth: underweight and overweight**

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.

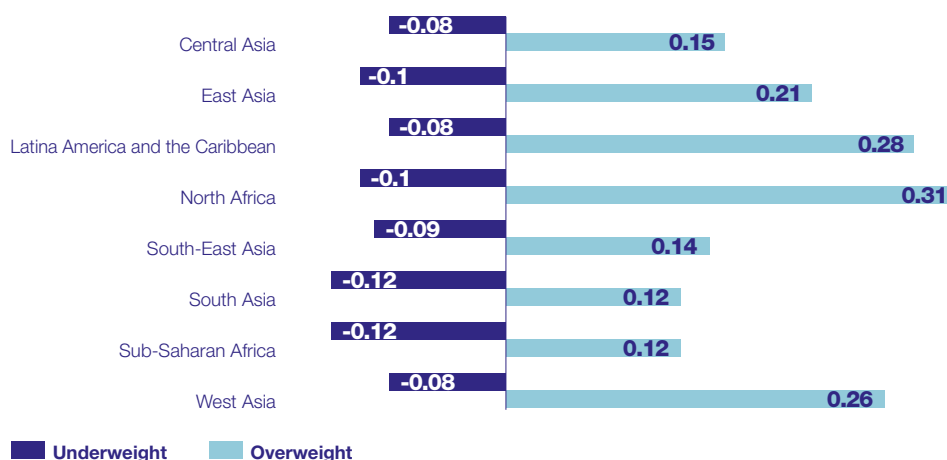
Rural transformation is also linked to the increasing prevalence of overweight and obesity, especially as a country moves firmly into the transitional stage of the agrifood system transformation. Changes in the food environment associated with this transformation (promotion of “junk” foods, increased 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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