UNCTAD/LDC/2015

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

UNCTAD

THE LEAST DEVELOPED COUNTRIES REPORT 2015

Transforming Rural Economies

CHAPTER 5

TRANSFORMING RURAL ECONOMIES IN THE POST-2015 ERA: A POLICY AGENDA

UNITED NATIONS
New York and Geneva, 2015

CHAPTER 5

Transforming Rural Economies in the Post-2015 Era: A Policy Agenda

A. New goals, new context, new strategies

In almost all LDCs, most people live in rural areas, and most workers are engaged in agriculture. Thus rural development, though often neglected, is central to the overall development process; and structural transformation of rural economies is a critical dimension of the economic transformation essential for LDCs to benefit more fully from international trade and investment. As discussed in Chapter 1, the importance of rural development in LDCs is further underlined by the 2030 Agenda for Sustainable Development and the SDGs, which also give rise to both the need and the opportunity for a new approach to rural development. This chapter seeks to address how national and international actions can best contribute to the transformation of rural economies in LDCs in light of the new goals and the new context of the post-2015 era.

The SDGs give rise to both the need and the opportunity for a new approach to rural development.

In principle, the objective of poverty eradication indicates a need for:

(a) Decent work for all, in line with ILO's Decent Work Agenda (ILO, 1999), with

(b) A legislated minimum wage, set at a sufficient level to allow households a per capita income above the poverty line, and

(c) Social safety nets to support those unable to generate an income above the poverty line through productive activities.

In the context of the LDCs, however, this may be better seen as the destination rather than the route. To be viable, a minimum wage needs to be underpinned by a corresponding level of productivity; and a social safety net will only be feasible and financially sustainable if all but a small minority of households have primary incomes above the poverty line, and if dips below this level are limited and temporary. Establishing these prior conditions will require a process of poverty-oriented structural transformation (POST), as outlined in Chapter 1, to generate the full and productive employment required to complete a virtuous circle of economic and human development (UNCTAD, 2014a, Chapter 3).

Poverty-oriented structural transformation is needed to complete a virtuous circle of economic and human development.

This chapter begins with a discussion of the key priorities for rural economic transformation in the post-2015 era: agricultural upgrading; diversification into non-farm activities; strengthening synergies between agriculture and the non-farm economy; empowering rural women; kick-starting the virtuous circle of rural economic transformation; and sequencing investments and interventions. It continues with a discussion of policies in five cross-cutting areas — finance, technology, human resources, enterprise and institutions — followed by a consideration of international dimensions of policy for rural economic transformation: development cooperation, trade, finance and regional and interregional cooperation.

B. Priorities for rural transformation in the post-2015 era

1. Agricultural upgrading

Agriculture, more than any other sector, must be considered in each particular local context. There are considerable differences between countries and localities, not only in patterns of demand and crops grown, but also in terrain, soil, climatic conditions, hydrology, altitude, land tenure systems, plot

sizes, incidence of pests and crop and livestock diseases, etc. Moreover, such variations arise within as well as between countries.

This makes overgeneralization and one-size-fits-all approaches unrealistic and even dangerous, and limits the potential for transferring successful experiences between geographical contexts. Thus, the potential for an "African Green Revolution" (e.g. Sachs, 2005), seeking to replicate the Green Revolution experienced by some Asian countries since the 1960s, is seriously limited by the marked agroecological differences between the two regions: limited African cultivation of wheat and rice, which offered great potential for productivity improvement in Asia; much greater agroecological heterogeneity, limiting the potential intraregional technology spillovers (Binswanger-Mkhize and McCalla, 2010; Pardey et al., 2007); more limited irrigation; and greater infrastructure constraints (Dethier and Effenberger, 2012).

The local specificity of agriculture makes one-size-fits all approaches unrealistic and even dangerous.

Hence, in African LDCs in particular, what is needed is less an Asian-style Green Revolution than "numerous 'rainbow evolutions'" (InterAcademy Council, 2004, p. xviii) or "a series of differentiated agricultural revolutions suited to [their] varied ecological niches and market opportunities" (Staatz and Dembélé, 2007, p. 2). This implies a much more bottom-up, locally based and geographically varied approach to agricultural upgrading than is sometimes envisaged.

A key issue spanning the economic, social and environmental dimensions of agricultural development is that of plot sizes. While agricultural yields have generally been found to be higher on smaller than on larger farms (Eastwood, Lipton and Newell, 2010; Binswanger, Deininger and Feder, 1995), leading to a shift of emphasis towards small farms in recent years (UNCTAD, forthcoming), there is a natural limit to the movement towards smaller farms; some technologies with the potential to increase yields may be better suited to larger plots; and excessively small plots may lead households to overexploit land, resulting in soil exhaustion and/or erosion over time.

Policy consideration should be given to agricultural right-sizing, focusing on socially optimal plot sizes.

This suggests a need for what might be termed agricultural right-sizing. Rather than seeking to promote either small- or large-scale agriculture, consideration should be given to the optimal plot size in a particular location, given the agroecological and other conditions and potential crops, taking account of economic, social and environmental considerations. For some crops, where there are substantial economies of scale, production on small plot sizes may be unviable, making much larger plots necessary. However, overreliance on large-scale production is likely to be ineffective in eradicating poverty, as employment creation (outside peak seasons) is generally relatively limited and agricultural wages are very low. Ideally, therefore, sufficient land should be left available for small-farm agriculture to provide all households with incomes above the poverty line.

Despite the generally greater efficiency of small farms in production, there are important economies of scale favouring larger producers in other dimensions, such as finance, input acquisition, marketing, quality assurance and processing, which may threaten the viability of small farms as businesses, particularly in seeking to integrate with value chains (Hazell and Rahman, 2014). This points to a key role for producers' associations and cooperatives in maintaining the advantages of small-scale production while overcoming the market disadvantages of small producers.

Producers' associations and cooperatives have a key role in overcoming the market disadvantages of small producers.

Reforming policies which artificially favour large producers at the expense of small farmers can also bring substantial benefits. In Malawi, for example, reforms reducing differential protection of large estates dramatically shifted the structure of agricultural production, allowing smallholders both to diversify rapidly into

cash crops, increasing their share of burley tobacco production to 70 per cent, and to benefit from greater trade in food crops (World Bank, 2007).

The major elements of agricultural upgrading are diversifying production, increasing productivity and reducing post-harvest losses.

In many rural areas of LDCs, there may be some potential to increase cultivated area, e.g. by easing seasonal labour constraints or by improving or extending agricultural infrastructure such as irrigation and drainage. In general, however, the major elements of agricultural upgrading are diversification of production towards higher-value crops (assisted by the shift in demand patterns arising from declining poverty); increasing physical output relative to land and labour used; and reducing post-harvest losses. Increasing yields and labour productivity is primarily a question of technological change: improving agricultural practices and increasing use of inputs such as fertilizers, pesticides and improved seeds, according to local circumstances. Reducing post-harvest losses requires improved storage facilities. Both will entail significant investment.

Market differentiation through certification can increase product value.

Market differentiation, in the form of product certification, provides another means of increasing product value — including for wild collection (e.g. of honey and nuts) as well as cultivation. Helping farmers to secure internationally recognized certification of organic production could provide significant benefits to small farmers in export markets, both for traditional products such as coffee and cocoa, and for horticultural products. In countries with existing tourism sectors or the potential to develop them, this can also provide a useful forward linkage for organic agriculture: It is noteworthy that several of the countries with the largest organic subsectors also have substantial tourism sectors.

Fair trade and sustainability certification may also provide valuable means of product differentiation, beyond any immediate social, developmental and environmental benefits. As discussed in Section D.2 below, such benefits could be further enhanced by the development and promotion of a broader global "sustainable development brand" explicitly linked to the SDGs.

2. Developing the rural non-farm economy

The second key element of rural economic transformation is the development of a dynamic and productive non-farm economy. As discussed in Chapter 3, non-farm incomes in relatively stagnant rural economies come primarily from survivalist activities in sectors with low entry barriers and low productivity, which offer little scope to generate wider or more lasting benefits. A key aspect of rural transformation is to shift the sector towards the more positively motivated "entrepreneurs by choice" characteristic of more dynamic rural economies. While these also typically take the form of household income diversification initially, they are more likely to grow over time; and such enterprise expansion contributes much more to employment creation and increasing productivity than the formation of new microenterprises (Liedholm, McPherson and Chuta, 2007).

Shifting the RNFE towards "entrepreneurship by choice" and generating employment are critical.

Employment generation is critical, as "it is unlikely to be the case that large scale poverty reduction is going to be achieved by making more and more people dependent on entrepreneurial activities" (Dercon, 2009, p. 18). Not everyone wants, or has the potential, to be a successful entrepreneur: This depends not only on natural aptitude, but also on access to financial resources, education, and ability to bear the risks of entrepreneurship, all of which favour the better-off (Barrett, Carter and Timmer, 2010; Lanjouw and Lanjouw, 1995; 2001). Enterprise expansion thus spreads the benefits of diversification more widely, increasing the effect on poverty reduction.

Thus the key is to find an appropriate balance between enterprise creation and enterprise expansion in the local context, given the current state of rural enterprise. In most remote and isolated areas, where "survivalist" household

income diversification predominates, the creation of more dynamic and positively motivated enterprises is needed, to provide a base for future expansion. In peri-urban areas with a substantial number of existing microenterprises, a greater focus on promoting the expansion of existing dynamic enterprises is likely to be more fruitful than promoting a further proliferation. The latter would risk intensifying oversupply and excessive competition, and thus undermining enterprise viability and expansion.

In remote areas, creation of dynamic enterprises is needed; in peri-urban areas, enterprise expansion is likely to be more fruitful.

A broad-based agricultural upgrading (and other sources of income such as employment in the construction of infrastructure) can be expected to reduce the "push" factors driving survivalist activities by simultaneously reducing supply and increasing demand, thus helping to increase returns. By combining this easing of push pressures with policies to support "entrepreneurs by choice" (Section C.4 below), it is possible to initiate a transformation towards a more productive and dynamic non-farm sector. Rural electrification (Section C.5 below) can also be expected to contribute substantially to enterprise creation and expansion, by increasing opportunities for new production, new technologies and economies of scale.

The effectiveness of enterprise promotion can be further enhanced by "picking possibles" in the terminology of UNCTAD (2014a, Chapter 5) — focusing on promising subsectors in each local context (Chapter 3, Section F). Identifying and addressing systematically the incentives and capacity constraints that impede the development of priority activities can allow and encourage rural households and RNF enterprises to overcome entry barriers (see e.g. Reardon, 1997), and help to create "linkage-friendly" agriculture and RNF activities (FAO, 1998).

Enterprise promotion can be enhanced by "picking possibles" – focusing on promising subsectors in each local context.

3. Maximizing agriculture-RNFE synergies

As highlighted in Chapters 1 and 3, agricultural upgrading and development of the non-farm sector are interdependent. Consequently, a coherent and consistent approach to rural development is essential, to ensure that they are mutually supportive, and to maximize synergies between them.

Increasing staple food production and maintaining local food stocks have an important role.

A key aspect of this interdependence is production of staple foods. Subsistence producers are reluctant to divert their resources to other activities unless they are confident that food will be available and affordable even in the event of a poor harvest. As well as improving the functioning of and access to markets, upgrading staple crop production can both allow subsistence farmers to meet their own needs while using part of their land for other crops for sale, and help to ensure adequate local supplies. It is thus a high priority for technological upgrading in agriculture (Section C.2), especially in the early stages of rural transformation and in remote and isolated areas.

Creating and maintaining local food stocks can also play a major role in ensuring local food security and stabilizing prices, by buying staple foods when supply is abundant, and selling them in the event of undersupply. Such stocks can also provide opportunities for agroprocessing (e.g. drying and/or grinding produce for storage) and the development of storage infrastructure, an important means of reducing post-harvest losses.

There are important synergies between agricultural upgrading and agroprocessing…

More generally, agroprocessing provides a key channel of production linkages and synergies between agriculture and non-farm activities, as upgrading and diversifying agricultural production creates new opportunities for processing activities, while processing activities make agricultural produce more easily transportable and extend its product life, allowing access to a wider market. Agroprocessing has particular potential to empower women, as artisanal and

informal agroprocessing is often a traditionally female occupation, offering substantial potential for the development of dynamic microenterprises. There is also potential for backward linkages to the production of basic processing equipment to reduce the drudgery of tasks such as grinding, pounding and shredding. This indicates a strong case for focusing on agroprocessing in promoting and supporting non-farm enterprises, and in financing and training (Sections C.1, C.3 and C.4).

…but other subsectors are also important, to generate employment in the agricultural low season.

However, other sectors are also important, given the interaction between agriculture and the RNFE in the labour market. As noted in Chapter 2, wage labour in agriculture is generally very limited; and the extreme seasonality of agricultural demand for wage labour limits employment opportunities in low seasons, even where the cultivated area is constrained by labour shortages at peak times. Thus a key policy objective of policies aimed at the RNFE is to promote activities that generate employment or income opportunities in seasons of low agricultural labour demand, without compounding labour shortages in peak seasons. Since agroprocessing of perishable crops is concentrated in the period immediately after harvesting, this highlights the importance of a more diversified approach to enterprise promotion, rather than focusing exclusively on agroprocessing.

Policies to strengthen supply response are critical to maximize multiplier effects.

The development of export crops can also generate increasing opportunities for industrial agroprocessing, creating the potential for the growth of SMEs generating employment as rural development progresses, particularly for women. Creating appropriate incentives to promote the integration of small farmers and SMEs into global value chains (GVCs), and to ensure positive developmental effects, is therefore a high priority for policy (box 5.1).

As discussed in Chapter 3, the demand linkages between agriculture and the RNFE are critical, giving rise to important multiplier effects, as well as helping to provide non-seasonal income opportunities. However, the strength of multiplier effects depends critically on supply response, which is often muted by the constraints facing both farmers and non-farm producers. Policies to strengthen supply response are thus critical, in finance, technologies, skills and market information. Such policies are discussed in greater detail in Section C.

4. The gender dimension: empowering rural women

Gender needs to be an integral part of any rural development strategy.

As discussed in Chapter 4, tackling the constraints faced by rural women and closing the gender gap in agriculture are key elements of rural structural transformation and improving the supply response to new opportunities and incentives. This is not a stand-alone issue, but needs to be an integral part of any rural development strategy. Many of the disadvantages faced by rural women and female-headed households, although they arise from gender-specific constraints and cultural norms, mirror those of other disadvantaged and excluded groups, or of poorer and underresourced households more generally (Chapter 4, Section D). Equally, key drivers of the gender gap in agriculture — access to land, labour, inputs, extension and other supply-side services, credit, markets and human capital — closely reflect the major constraints on agricultural upgrading (World Bank, 2007).

These overlapping issues need to be addressed through gender-sensitive approaches in this broader context, to ensure that women benefit. For example, effective enforcement of labour rights is particularly important for women. While ILO has developed an extensive body of rules to protect and enforce women's labour rights, many rural women face binding socioeconomic constraints to seeking redress and protection against abuse and exploitation, in both traditional and non-traditional activities, ranging from lack of legal awareness to social exclusion.

Box 5.1. Agro-industries and global value chains

Export-oriented agro-industries may provide new and better employment opportunities in rural areas; provide a route out of poverty, not least for women; and contribute to diversification of the rural economy. However, incentives must be proactively shaped for this to occur (FAO, IFAD and ILO, 2010a).

In Democratic Republic of the Congo, for example, the Government has recently created a number of agro-industrial parks based on public-private partnerships to attract foreign investment, anticipating participation by smallholder farmers and cooperatives. Such approaches may bring significant employment opportunities, particularly for women, provided gender concerns related to the quality and security of the employment generated are taken into account (UNDP, CAADP and NEPAD, 2013). When seeking investors for agroprocessing zones, governments should carefully weigh any short-term benefits of easing labour standards in attracting investors against the long-term costs in terms of health and safety standards, workers' rights and constraints on raising incomes above the poverty line (UNCTAD, 2014a).

Another avenue is to link small farmers (individually or in groups) to agricultural value chains. Contract farming or out-grower schemes for high-value produce can offer significant opportunities for small farmers, provided adequate support measures are in place to help them overcome the multiple technical and financial constraints they face in upgrading and scaling up their production and meeting demand requirements. Processing factories can play a pivotal role in turning small farms into viable and efficient enterprises through the extension of appropriate financial incentives and support services. Innovative supply-chain finance schemes may also provide a useful complement to direct public backing for finance, reducing the cost of credit by transferring default risk from small producers to commercial off-takers (buyers and local processing factories) better equipped to sustain it.

This is of particular importance to women farmers, and off-takers can act as catalysts for the empowerment of rural women by structuring their procurement in a way that favours women farmers and by providing extension support, quality inputs and finance. However, sourcing from plots managed by women is often perceived as risky, and out-grower schemes are often arranged with male farmers: While women are generally involved as family labourers, it is men who control the contracts (FAO, 2011). In Senegal, for example, only one woman was found in a sample of 59 farmers contracted to produce French beans for the export sector (Maertens and Swinnen, 2009).

The issues raised above largely reflect the very unequal bargaining power between large buyers and scattered peasant producers, and the tendency of large buyers to favour larger and more commercially-oriented farmers, to the detriment of smaller and female farmers. Harnessing value chains to provide opportunities for smaller and women farmers thus requires appropriate monitoring mechanisms and incentives; and benefits depend on their sustainable integration into the chain, as well as ensuring that the contracted acreage does not crowd out production of staple food crops for home and local consumption (Dolan, 2001). Public sector intervention may therefore be necessary to structure incentives for off-takers to include smaller and female farmers in their procurement, widening bilateral contractual relationships between farmers and off-takers to triangular public-private partnerships including the public sector.

More generally, profits from GVCs are heavily concentrated in the entities that control them, and in downstream activities such as distribution and retailing; and LDCs (particularly more remote island LDCs and landlocked countries) face numerous structural disadvantages in competing for GVC segments. Consequently, greater potential benefits to development may be available in the long term from establishing supplier-led value chains than in competing for segments of chains led by transnational corporations (TNCs). A key issue is control of "brand", which in part underlies the beneficial impact of tourism (the destination itself being a brand) and of national reputational advantages in agricultural supply. Value chains based on products subject to geographical indications offer one approach.

There may also be benefits in bypassing existing value chains, by establishing direct linkages between individual suppliers (or producers' associations) and distributors in other countries. This may be facilitated by the spread of electronic communications and the Internet, as well as diaspora networks.

In other areas, disadvantages arise directly from sociocultural gender norms, for example concerning asset ownership and inheritance, access to education and engagement in particular economic activities. In such cases, more proactive gender-specific or gender-redistributive measures are needed. This applies particularly to women's land rights, which are often constrained more by cultural norms than by law. It is therefore important that land registration and titling systems are designed to secure women's land tenure (Carpano, 2011; World Bank and ONE, 2014; UNCTAD, 2014b; UN Women and OHCHR, 2013).

Gender-specific measures are needed to deal with gender disadvantages arising directly from sociocultural norms, but gender sensitivity is essential.

However, land rights are a particularly complex area, and policy interventions need to be carefully crafted to take into account the local conditions (e.g. land shortage in some areas) and often deeply entrenched sociocultural norms. Gender sensitivity is essential in such processes, as the perception that policies are antagonistic to men may risk further marginalization of women, through social pressure and social exclusion. Such risks may be reduced by identifying

male champions — men of high social standing, including local leaders — to promote women's land rights. Where customary norms are strong, it may also be beneficial to hold some village meetings separately for men and women, to allow them to speak more freely.

Women's land titling can be encouraged by financial incentives and/or streamlined procedures.

Co-titling and individual titling for women can be encouraged by offering financial incentives (e.g. fee discounts) and/or streamlined procedures to prospective owners who accept their (formally or customarily married) wives as co-owners, and to divorced, separated or widowed women. Co-titling can also be mandated by law, as under Rwanda's Land Tenure Registration programme. Gender aspects should be considered in all steps of the registration process: Both men and women should be included in the process of identifying individual owners and boundaries of plots for registration, and in teams charged with their delimitation; and the names of all family members should be included in registration.

Women's 'time poverty' — a critical constraint to opportunities for developing non-farm activities — can be reduced by enhancing access to locally appropriate time-saving technologies and equipment attuned to women's strength, requirements and needs, as well as mobilizing additional labour on women's plots (Carr and Hartl, 2010; World Bank and ONE, 2014). Appropriate interventions may include financial incentives (e.g. vouchers, cash transfers or discounts) for hiring or buying appropriate equipment, and incentives for women farmers' associations and cooperatives to procure equipment collectively and for suppliers to extend services to female farmers (World Bank and ONE, 2014). Efforts to ease women's double burden as workers and family care providers can also contribute, and may be facilitated by social partners such as health services, producers' associations and women's networks.

Demand- and supply-side kick start mechanisms can initiate a largely self-sustaining process of rural transformation.

5. Kick-starting rural economic transformation

Despite the potential for a virtuous circle of agricultural upgrading and rural diversification leading towards sustainable rural development and accelerated poverty reduction, such a process has not taken root in most LDCs. This partly reflects the need for more effective policies to promote small-scale agriculture and non-agricultural sectors, and to strengthen the synergies between them. However, it also indicates a need to identify means of kick-starting the process, to initiate what should be a largely self-sustaining process once initiated.

Ideally, such kick-start mechanisms should be administered on both the demand side and the supply side. There are numerous policy interventions that can contribute to the necessary increase in supply capacity and improved supply response. Policy approaches in the areas of finance, technology, skills development, enterprise promotion and institutions are discussed in greater detail in Section C below.

Rural electrification has a potentially transformative supply-side effect.

Rural electrification can provide an additional boost. The very low levels of access to electricity in almost all LDCs, especially in African LDCs and Haiti (Figure 1.7(a)), is a major constraint on the development of non-agricultural activities, and imposes serious limits on productivity and competitiveness (UNCTAD, 2014a, box 5, p. 133). Thus the major acceleration in the rate of rural electrification implied by the 2030 Agenda has a potentially transformative supply-side effect on rural economic diversification, by simultaneously increasing the potential for local non-agricultural production and increasing the productivity, competitiveness and viability of existing enterprises.

The major increase in infrastructural investment also offers the potential for a corresponding kick-start on the demand side. As discussed in Chapter 3, public

investment in labour-intensive construction projects and local procurement can both increase wage incomes (increasing local demand for food and other consumption goods and services) and generate demand for local supply of construction materials and construction-related services. The benefits to village economies of investments in local rural hubs (e.g. construction or expansion of schools and health facilities) and of infrastructure development in rural towns can be strengthened by recruiting the workforce from surrounding rural areas as well as the hub or town itself. As well as demand effects, this can foster greater contacts among local economies, and spread the longer-term benefits of skills acquisition more widely.

Labour-based infrastructure investment and local procurement can provide an important demand-side kick start.

Since such investment will necessarily be financed largely from outside the rural economy (given the insufficiency of local resources in rural areas of LDCs relative to the scale of investment required), it will have an effect comparable to a temporary increase in exports, with similar multiplier effects.[1] In this context, the use of labour-based construction methods and local procurement (where possible) is equivalent to increasing the labour intensity and local value added of such exports. The boost to local economic demand would in many cases be substantial relative to the size of local economies.

In remote and isolated areas, the acquisition, processing and storage of local food security stocks may provide a secondary demand-side driver of rural transformation. Purchasing surplus supplies of staple foods with public funds when production exceeds local consumption needs can provide an additional injection of income into the local economy. In the longer term, the maintenance of such stocks would also remove an important obstacle to diversification by stabilizing prices (increasing demand when there is excess supply and increasing supply when there is excess demand), while also providing greater assurance of food access in subsequent years.

In remote areas, acquisition of food security stocks can provide a secondary demand-side driver.

6. Sequencing investments and interventions

The combination of a substantial demand-side boost and constraints on supply response highlights the need to phase investments and interventions in such a way as to ensure that demand does not outstrip local supply capacity. As discussed in UNCTAD (2014a, Chapter 5), different infrastructure investments have different effects on demand, supply and openness. By focusing initially on investments (notably electrification) that primarily affect supply and productivity, and on policies and interventions that promote more effective supply response (e.g. enterprise promotion, training, finance and access to inputs), the ground can be prepared to enhance the supply response for investments that have a greater potential for demand generation (e.g. roads, sanitation, water supply via wells or rainwater harvesting, construction of schools and health facilities). The combined effect can provide a more solid foundation for a net positive effect from opening the economy to wider markets and competition when roads are completed.

Sequencing of investments and interventions is important, to maximize their development impact.

The impact of infrastructure investment can also be enhanced by prior implementation of related interventions. For example, opportunities for local employment and procurement in infrastructure construction can be enhanced through prior implementation of training programmes in construction-related activities and support to the development of enterprises producing construction materials.

Sequencing of investment in transport infrastructure itself may be beneficial as well. As discussed in Chapter 3, improving transport infrastructure creates both opportunities and threats for rural producers. The opportunities arise from access to a larger market, while the threats arise from exposure to unequal

competition with larger, established and advantaged urban producers. To survive and thrive in the new environment, producers must be able both to exploit the new opportunities of the wider market and to withstand exposure to competition from larger established suppliers, by expanding production, harnessing economies of scale, adopting new technologies and marketing goods in new markets.

This requires proactive measures to prepare local producers for this new environment. As well as improved economic infrastructure, such measures include policies to ensure access to affordable finance, production technologies and inputs; training in financial, business and vocational skills; and fostering a favourable institutional environment, for example by facilitating the emergence and strengthening of producers' associations and cooperatives. Such policies are discussed in greater detail in Section C below.

Investment in transport infrastructure may usefully focus initially on transport within rural areas and later on rural-urban linkages.

In this context, it may be beneficial to focus initially on construction of roads between local hubs and surrounding areas and between local hubs themselves. In this way, the size of the market can be enlarged progressively, while competition remains among producers with similar endowments (and similar challenges). By providing some of the benefits of market opening while limiting the shock of exposure to competition from established producers with much greater economies of scale, this would help producers to exploit economies of scale and prepare them for the more demanding competition entailed in competing with much larger producers. It can thus provide a stepping stone to the wider opening associated with improved transport to more urbanized areas.

There are also synergies between such sequencing of transport investment and social goals such as access to health and education, as well as access to extension services. Increasing school attendance and health-service provision will entail more travel between rural areas and local hubs (and in many cases construction of new schools or facilities in such hubs). This will both require improvements in accessibility of hubs from surrounding areas, and almost certainly contribute to an acceleration in their growth.

This suggests three broad phases of a post-2015 process of rural economic transformation, the first focusing primarily on creating the preconditions for effective supply response; the second on demand-creating infrastructure investment, including in local rural roads, and increasing supply capacity; and the third on improving transport connections with urban areas, while further strengthening the capacity of rural producers to compete with their urban counterparts.

Microcredit is far from a panacea: more effective mechanisms for financing small-scale investment should be sought.

C. Key policy areas for rural transformation

1. Financing productive investment

Alleviating capital constraints on small farms and rural enterprises is critical to rural economic transformation. Possible approaches include provision of credit or grants by public agencies, commercial microfinance and vertical integration of smaller with larger firms (Wiggins, 2014). However, the weak evidence of positive effects of microcredit, and the possibility that it may in fact have negative impacts (Chapter 3), suggest that it is far from a panacea. This highlights the need for an active search for more effective means of financing small-scale productive investment, and a more systematic and objective assessment of the effects of microfinance (Duvendack et al., 2011), including in the very particular context

of rural areas of LDCs. Similarly, the risk of dispossession and impoverishment associated with the use of land as collateral in already poor rural communities indicates a need for caution. Warehouses issuing negotiable receipts for crops, which can be used as collateral for short-term finance, could provide a more satisfactory alternative (Beck et al., 2011, p. 124).

Interest rate subsidies, conditional on an interest rate cap, could increase the developmental benefits of microfinance.

Use of microcredit to upgrade "survivalist" non-farm activities is particularly inappropriate, given their low productivity and limited potential for expansion. Economies of scale in lending suggest that larger loans to SMEs are likely to be more beneficial. More dynamic small farms and growth-oriented microenterprises in peri-urban and intermediate rural areas may also be able to benefit from access to credit, although cost and risks remain important issues. A possible approach is to provide conditional interest rate subsidies on microcredit — for example, where the market rate on microcredit is 40 per cent per annum, an interest subsidy of 30 per cent could be provided, conditional on the interest rate to the borrower not exceeding 10 per cent. The greater assurance of payment this would provide to lenders might also make it possible to require a minimum repayment period. This could leverage private financing more effectively and greatly increase the uptake of microcredit, while minimizing its potential negative impacts.

Training in financial literacy and business skills is an essential precondition for microcredit.

Training in financial literacy and business skills and assistance in preparing viable business projects are an essential precondition to credit-based financing, particularly where education is limited, so as to limit risks (to creditors and borrowers) and increase returns on investment. Credit-based schemes should therefore be closely linked with training and/or mentoring. Cooperatives, producers' associations and women's networks can play a major role in this regard. They can also help to improve access to credit and reduce its cost by acting as intermediaries or guarantors for borrowing by members, or through credit-and-loan arrangements among members. Such activities can also provide an important mechanism to leverage and strengthen such networks.

Ensuring equal access to finance for women and men is a significant aspect of overcoming gender constraints in rural development. However, the primary means of doing so is to mainstream gender into core programmes and policies, as schemes that target exclusively women arbitrarily exclude vulnerable men and may cause male resentment. Targeted interventions may nonetheless have a role in specific contexts where women are a marginalized social group (FAO, 2002); and the establishment of publicly backed schemes oriented towards women, though important, is not sufficient for this purpose (UNCTAD, 2014b). Effective targeting of rural women may also require measures such as informal guarantees (e.g. group lending and liability and other trust relationships) or collateral and more lenient repayment terms.

In remote areas, in-kind microgrants of productive inputs can combine financing with access to technologies and selective opening of local economies.

The potential for mobile phone-based payments systems to reduce transaction costs strengthens the case for investment in extending networks. Combined with increasing investment opportunities through rural development, this could contribute substantially to increasing the scale of lending opportunities to a level sufficient to attract commercial lenders to rural areas. Such systems can also enhance business viability by increasing access to market information, and facilitate and reduce the cost of remittances from migrants in urban (and other rural) areas and abroad (Maloumby and Kingombe, forthcoming; Wiggins, 2014).

In remote and isolated areas, economies are often oriented mainly towards subsistence production, so that commercial activity and monetization are limited. In such conditions, microcredit is unlikely to provide a viable option, even with conditional interest rate subsidies. Here, there may be a case for in-kind microgrants of productive inputs: Each household could be offered a

choice of locally appropriate agricultural inputs, with advice on their use, or equipment or materials for non-agricultural production, up to a specified value, delivered annually ahead of the planting season. This would have the combined effect of financing investment in agricultural upgrading, which would otherwise be problematic in a largely demonetized local economy, providing access to technologies that would otherwise be unavailable, and engineering a selective opening of the economy to productive inputs.

Input deliveries under microgrant schemes could usefully be combined with other SDG-related activities.

While the costs of such an approach would be substantial, few other options can be envisaged for transformation of remote and isolated rural areas of LDCs, which is essential to poverty eradication globally. This would justify the funding of such schemes from additional ODA (Section D.1), although a few fuel-exporting LDCs may be able to do so from resource rents. The net effect on the overall cost of achieving the SDGs could be reduced by combining input deliveries under microgrant schemes with other local-level activities necessary to the SDGs more broadly. A concerted effort to meet the SDGs would require baseline surveys and assessments of local needs and options (e.g. for water and energy supply); and progress towards health and education goals could be accelerated by early identification of potential village health workers, educators and trainees. Combining such activities with input deliveries under in-kind microgrant schemes would allow overall costs to be reduced significantly through economies of scale. Early deliveries would also provide an opportunity to identify possible future development opportunities, such as natural resources (e.g. for construction materials), and crafts and foods with a wider potential market.

Over time, as productivity increases and the local economy becomes more commercialized, it should become possible to make a transition to (subsidized) microcredit or cash sales, for example by reducing the value of free goods provided while allowing additional amounts to be purchased on credit. In most cases, given the importance of ensuring supply of basic foods and the role of inadequate staple production as a driver of "survivalist" off-farm activities, the emphasis should initially be on increasing staple productivity, but with increasing emphasis on inputs for higher-value crops and non-farm production as staple production and incomes rise.

Agricultural extension should be a two-way process between R&D agencies and producers.

2. Harnessing technologies for agricultural transformation

As well as financing, access to productive technologies — both in agriculture and in non-farm activities — is central to increasing productivity and promoting structural transformation. In agriculture, the diversity of local economic and agroecological conditions means that local appropriateness of technologies is critical. This means that technological upgrading cannot be a simple top-down process; rather, it should be based on an interaction between producers and those who develop and disseminate technologies.

Agricultural extension services are central to technological upgrading in agriculture, in order to provide access to locally appropriate agricultural technologies and the inputs and knowledge required for their effective use. Strengthening extension services is therefore a high priority in rural development strategies. However, the importance of local appropriateness (and of early technology adoption by disadvantaged producers, as discussed below), suggests that extension may be more appropriately viewed as an intermediary in a two-way process between R&D agencies and producers, rather than as a one-way channel for technology delivery. As well as providing access to locally appropriate technologies, extension workers can identify and share with R&D agencies the needs of local producers in their areas, and successful local innovations and adaptations of technologies, to facilitate better-targeted

R&D and wider sharing of approaches among producers. The development of effective communication systems oriented towards ensuring that R&D activities address the needs of small farmers could thus significantly enhance the effectiveness of both R&D and agricultural extension, as well as information-sharing among extension workers themselves. Effective and innovative use of ICTs has a particularly important role in this regard.

A POST approach to rural development also requires ensuring that access to extension services is not skewed away from smaller, poorer and women farmers, so as to promote their early adoption of more productive agricultural technologies. Without such efforts, early adopters are generally better-off producers, who have more resources for investment, better access to credit, greater capacity to bear investment risks, and often higher levels of education and better access to extension services. This is problematic from a poverty perspective, because the direct benefits of new technologies accrue largely to early adopters, who have a first-mover advantage: They are able to increase their production while total supply remains relatively unchanged, so that their output increases outweigh the reduction in prices resulting from increased overall supply. As use becomes more widespread, supply increases more, reducing prices more substantially, so that later adopters gain less, and the incomes of non-adopters are reduced.

It is important to ensure that extension services are not skewed away from smaller, poorer and women farmers.

Those with higher levels of education also achieve greater increases in output from the adoption of a given technology than those with less education (Foster and Rosenzweig, 2010); and commercial incentives for R&D often skew their benefits towards larger-scale production. As well as limiting the poverty-reducing effect of technological upgrading (and potentially even having perverse effects), such factors may reduce multiplier effects by concentrating income gains among higher-income households, who typically buy fewer local goods where other options are available.

Pro-poor targeting of extension services can be enhanced by proactively recruiting and training more women and small-scale farmers, particularly from remote areas, as extension workers, and by ensuring that training reflects the particular needs of women and other underresourced or disadvantaged farmers, and of remote and isolated areas. Women's involvement, as providers and beneficiaries of extension services, can be facilitated by ensuring that schedules for training of and by extension workers reflect constraints on women's time use.

Appropriate recruitment and training policies can improve pro-poor targeting of extension services.

Technology adoption can also be encouraged by identifying and supporting local volunteer farm advisers, specifically including women, who regularly meet with extension agents and transfer information within their social circles. Producers' associations and cooperatives can also play a role in encouraging the adoption of new technologies and dissemination among their members of information on locally appropriate use of inputs. In areas with mobile coverage, mobile phone applications can be another valuable tool, and should include applications specifically oriented to the particular needs of women farmers and other disadvantaged groups (World Bank and ONE, 2014).

Subsidy schemes for agricultural inputs can help to promote the adoption of higher-productivity technologies involving greater use of locally appropriate purchased inputs (Druilhe and Barreiro-Hurlé, 2012). Where there are marked differences in commercialization or ability to pay for inputs, targeting subsidies towards those unable to pay market prices, for example through appropriately designed voucher systems, may be beneficial where this can be done cost-effectively.

Input subsidies are most effective if based on wider packages of inputs and complementary services (e.g. extension services, improved seeds and appropriate fertilizers and pesticides) covering the full range of agroecological

contexts and farming systems. Such a package approach can help to overcome the tendency of small farmers to adopt single technology components, limiting productivity benefits, and to ensure availability and appropriate use of inputs. Over time, demonstration effects increase awareness of the benefits of greater input use; and, coupled with the additional incomes generated, this will increase input demand and help to foster the development of input markets. Provided procurement and distribution are designed to complement market development and not to suppress it, this should allow subsidies to be phased out over time, though over a very long period where agricultural commercialization is limited, notably in remote and isolated areas.

Input subsidies are most effective if based on wider packages of inputs and extension services.

Input use may also be encouraged by measures to tackle scale issues in supply (World Bank and ONE, 2014). Fertilizers, for example, are generally sold in quantities too large for smaller producers (typically, 50-kg bags). Access could thus be enhanced by encouraging supply in smaller quantities, for example through collective procurement by producers' associations on behalf of their members, or encouragement of commercial resale in retail quantities.

3. Human resources

Increasing educational access and quality, as envisaged in the SDGs, is also critical to structural transformation, and can be expected to yield considerable dividends in the long term, particularly if basic education motivates students, equips them with the skills needed for the labour market and enables them to benefit from further training (World Bank, 2007).

Adult education is as important as schooling for children, and should include financial literacy, business skills and vocational skills.

However, these benefits are inherently long-term in nature; and in many rural areas of most LDCs, especially beyond the peri-urban, most adults have had at best limited educational opportunities. Consequently, adult education is equally important. Particular priorities are basic literacy and numeracy, vocational skills relevant to rural economies, and financial literacy and business skills. Adult education for women is of particular importance: Even in those LDCs that are approaching or have reached gender parity, access to education has historically exhibited a substantial male bias, leaving most women significantly disadvantaged relative to their male counterparts. A number of rural adult education programmes, with flexible class schedules attuned to the needs of female farmers, have yielded positive results in specific contexts (World Bank and ONE, 2014).

A key aspect of promoting more vibrant and entrepreneurial rural economies is the development of the functional competencies essential to successful microenterprise and entrepreneurial agriculture, such as basic record-keeping, sustainable production methods and marketing skills. Such skills are particularly important where enterprise development is financed by credit. Possible approaches to the development of such skills include mobile training units, extension schemes and community-based modules (FAO, IFAD and ILO, 2010b and 2010c). In many cases, however, development of basic literacy and numeracy skills will be a precondition. As discussed in Section C.4 below, higher-level business skills will become increasingly important as rural economic transformation progresses.

An early priority for vocational training is construction-related activities.

An early priority for training in vocational skills in the post-2015 context is in construction-related activities such as carpentry, metal-working, stone-cutting, brick-making, bricklaying, etc. (depending on local resources and construction traditions). Employing local workers in skilled occupations both increases the demand impact and provides an additional human-resource legacy, as the experience of engagement in infrastructure construction helps to enhance and consolidate skills, including those required for maintenance and repairs. India's

Barefoot College provides a valuable model for such training, supported by South-South cooperation (box 5.2). Equally, using local materials in construction where possible, as well as contributing to the demand-creating impact, can help to ensure that the skills developed are locally relevant and continue to provide a basis for incomes beyond the initial investment phase.

Human-resource benefits of infrastructure investment can be enhanced by including on-the-job training.

These human resource benefits can be enhanced by explicitly including an on-the-job training component in infrastructure investment projects, and by providing training after their completion to facilitate the application of the skills acquired to activities for which there is likely to be continuing demand (e.g. maintenance; construction and repair of domestic housing; production of construction materials; tool-making and repair; and small-scale manufacturing).

Training electricians and mechanics is another priority ahead of the installation of electricity and water supply, to maintain and repair supply equipment and electrical appliances as they are adopted (as well as other equipment, e.g. in transport and agriculture): Reliance on service providers outside the immediate rural area risks creating prolonged delays in the case of equipment failure, as well as additional costs, with the potential for serious disruption of production.

Potential supply bottlenecks can be avoided by identifying priority sectors and filling the related skills gaps.

Other vocational skills will also be needed to enhance productivity in existing non-farm rural activities and facilitate the introduction of new activities and new and locally unfamiliar technologies, particularly following electrification. Potential supply bottlenecks can be avoided by identifying priority sectors (as discussed in Chapter 3, Section F) and the skills gaps impeding their development in each area, and facilitating the appropriate training. Over the longer term, as rural wage-labour markets develop, labour market observatories may be beneficial in aligning the demand and supply of vocational skills (Carton and Kingombe, 2012).

Apprenticeships may be useful for the spread of new skills.

Apprenticeships are often an important mechanism for intergenerational skills transfer; but some caution is required in a context of rapid economic and technological change, as they can perpetuate traditional technologies. While such technologies are of great importance in some sectors — for example, craft products for urban, tourist and export markets — they may be less useful in sectors where the primary considerations are cost and functionality. Nonetheless, as a traditional mechanism of skills transfer, apprenticeships may be useful for the spread of new skills, for example by encouraging (or requiring) those receiving vocational training to engage apprentices.

Box 5.2. Barefoot solar engineers: South-South cooperation for renewable energy

As the cost of solar photovoltaic panels has fallen over recent years, as a result of learning effects in production and increasing economies of scale, this has become a least-cost technology for electrification in many rural areas of LDCs, where low population density and limited purchasing power render grid-based centralized supply systems unviable.

As well as the investment costs and the necessary equipment, solar electrification requires skilled technicians, both for installation and for maintenance. In a noteworthy South-South cooperation programme, India's Barefoot College provides specially adapted six-month training courses on solar engineering to illiterate or semi-literate older women (aged 35 and over) from rural communities across the developing world, who return to their home countries to install solar units. Older uneducated women are targeted, not only because they are a particularly vulnerable group, but also because they are considered more likely to return to, and remain in, their home communities. This ensures both that the benefits are more widely spread, and that they extend beyond installation to maintenance.

This initiative, supported by grants from India Technical and Economic Cooperation, has been successful in many LDCs, including Afghanistan, Ethiopia, Malawi, Sierra Leone and United Republic of Tanzania, as well as ODCs. The Barefoot College model is now also being replicated in some LDCs, including Liberia and Sierra Leone, with support from the Government of India.

Source: "The 'barefoot' solar engineers", MakingIt Magazine, 11 March 2013, http://www.makingitmagazine.net/?p=6441; www.barefootcollege.org.

As well as training, consideration could be given to seeking to harness urban-rural skills transfers, by encouraging (and paying) rural-urban migrants who have developed skills in priority activities to return to their home areas to train others. This may be a particularly helpful option where language barriers are an impediment to training. It may also be beneficial to arrange temporary placement of rural vocational trainees with existing enterprises in urban (or other rural) areas to consolidate and develop their skills, although it may be necessary to require a minimum period of return to the home area following the placement.

Urban-rural skills transfers may be effected by circular migration and temporary placements with urban enterprises.

Cooperatives, producers' associations and women's networks can play a valuable role as well, not only in facilitating training, but also in information-sharing and mutual learning.

4. Fostering enterprise and innovation

Entrepreneurship in both agriculture and the RNFE is central to rural economic transformation, driving innovation and playing a vital role in the transmission of information on adaptation, products and processes; but in most LDCs, farmers as entrepreneurs lack the support needed to realize their full potential. Public policies, regulations, laws and norms are therefore needed to create a more enabling environment for innovation and entrepreneurship (Juma and Spielman, 2014), and to give farmers the same level of recognition and support accorded to industrial entrepreneurs. This is a key objective of the improvements in infrastructure, skills and financing outlined in Sections B.5, C.1 and C.3 above.

Improving the business environment is easiest in peri-urban areas and intermediate areas with relatively high population densities and favourable natural resource endowments. Elsewhere, the menu of interventions is more limited, especially with scarce public resources. This indicates a need both for an increased role of ODA, and for consideration of more innovative approaches such as the use of in-kind microgrants proposed in Section C.1 and the urban-rural skills transfer and use of apprenticeships as a multiplier for training proposed in Section C.3.

Where subsistence production predominates, financial literacy and basic business skills are a high priority.

Fostering innovation and enterprise, particularly among primarily subsistence producers and in areas dominated by subsistence agriculture, requires placing as much emphasis on business skills as on vocational skills. In such areas, eradicating poverty within 15 years will require an extraordinarily rapid transformation, from economies in which technologies and modes of economic activity have been entrenched for generations into diversified, entrepreneurial and rapidly growing markets, in a context where educational attainment is very low and illiteracy is widespread.

Surviving and thriving in this transformed context will require a new and different set of skills. Beyond providing adult education in basic numeracy and literacy skills, a first step is to design and implement simple and effective financial literacy programmes, such as the financial education project of the Association of Church Development Projects in Ghana, the Microfinance Consumer Education Programme in Uganda, and Financial Education for Young Women in Zambia, which have had a positive impact on savings behaviour and financial awareness (Messy and Monticone, 2012).

Over time, progressively more advanced courses will need to be developed to support the creation and growth of dynamic enterprises and more commercially oriented farming, encompassing a broader range of business skills, including accessing, interpreting and acting on market information; financial planning and management; identifying investment opportunities; choosing among technology and financing options; and understanding supply and value chains.

The development of SMEs will require more sophisticated training to upgrade managerial skills. Successful examples include training of small suppliers of intermediate goods for processing and exporting in Madagascar, Integrated Training for Entrepreneurship Promotion in the United Republic of Tanzania and the Opportunities Industrialization Council of Ghana (World Bank, 2007; OECD and AfDB, 2008).

Demand-side measures are as much a part of policy for enterprise and innovation as finance and skills development.

While policy for enterprise and innovation is often preoccupied with supply-side policies related to finance and human resources, it is equally important to address the demand side of the equation. This was an important shortcoming of policies in this area from the 1950s to the 1990s, which focused on promoting supply from individual enterprises but neglected demand, whose sluggish growth limited enterprise creation and expansion (Haggblade et al., 2007). It is thus important to learn the central lesson of this experience — that promoting parallel growth of demand and supply can have a more favourable impact on the overall climate for microenterprise and SMEs at lower cost than supply-side measures alone (Wiggins, 2014). Thus demand-side measures, such as labour-based infrastructure investment, are as much a part of policy for enterprise and innovation as finance and skills development.

Effective supply response requires information about anticipated changes in market conditions.

Equally, demand growth will have little effect on promoting enterprise development and innovation unless it is matched with an effective supply response. As well as access to finance, technology and skills, this requires information, not only about current market conditions, but about *anticipated* changes — in demand patterns, technological options and competition — arising from rising incomes, electrification and improved transport infrastructure. Without such information, producers are unlikely to invest soon enough to meet increasing demand: There are considerable time lags between investment and production (inherent in the annual or semi-annual cycles of agriculture, but also because of the need to acquire equipment, inputs and skills for new RNFE activities); and the risk aversion inevitably associated with poverty (or more accurately, the extremely high non-financial risks associated with even small financial risks) is a serious deterrent to investment. Effective supply response requires investments to be made in anticipation of demand changes that may not materialize or may prove short-lived; and poorer households cannot afford to make unprofitable investments, especially where they need to be financed with credit at very high interest rates.

Anticipated demand increases can be estimated on the basis of expected income changes and household expenditure surveys.

This need can in principle be met by estimating both the income increases likely to be generated by interventions in the local economy (e.g. labour-based infrastructure construction) and the resulting demand changes on the basis of household expenditure survey data. Providing this information as a public good, and orienting interventions (access to finance, inputs, equipment and training, extension services, etc.) to production of goods and services for which demand is expected to increase, could greatly improve supply response, and hence increase local multiplier effects.

The rapid spread of cell phone coverage in rural areas of most LDCs provides an important channel for information on local and more distant markets, and on new technologies, as well as helping to spread financial inclusion and reduce transaction costs. However, ICT is beneficial only to the extent that it is available and affordable; and its reach is further limited by low levels of literacy and the need for material to be available in (often multiple) local languages. It is therefore far from a panacea, particularly as availability is generally greatest in the most advantaged areas, and affordability and literacy considerations skew the benefits to the better-off. As discussed in Chapter 4, ICTs are also by no means gender-neutral; but they can be made more appropriate for women farmers and entrepreneurs by building on established women's networks and taking

particular account of gender constraints and needs, such as female time and mobility constraints and social norms.

Consequently, policymakers should not allow the immense potential of ICT to distract them from the complementary role of older alternatives, notably broadcast radio. While ICTs are a better means of reaching targeted audiences, radio provides an effective means of mass communication, which, though less conducive to targeting, is more widely available, more accessible (not requiring literacy) and more affordable. Even where cell phone coverage is available, and especially where it is not, there is therefore a strong case for support to local radio stations to provide information about potential economic opportunities, agricultural and other technologies, and anticipated changes in market conditions. There is also a strong case for ensuring access to radio sets through subsidization and/or free distribution.

Despite the potential of new ICTs, older alternatives such as broadcast radio still have an important role.

5. Institutions

The scale and the nature of the economic transformation needed in rural areas of LDCs clearly point to the need for a developmental State (UNCTAD, 2009). Major changes will be needed in LDCs' rural economies if poverty is to be eradicated sustainably; and the changes required go beyond overcoming market imperfections that obstruct economically efficient outcomes and limit economic growth. Important as such imperfections undoubtedly are, market forces must also be channelled towards achieving the societal goals embodied in the SDGs, in areas such as poverty, nutrition, health, education and environmental sustainability. This can only be achieved by proactive government policies and interventions, as part of a coherent overall development strategy.

A developmental state is needed to channel market forces towards societal goals.

Beyond the provision of health and education services essential to fulfilment of the SDGs, key priorities include support to, and appropriate policies towards, agricultural R&D, extension services and access to inputs; economic infrastructure, notably for agriculture and in the transport and communications sectors; adult education and skills development; access to finance on appropriate terms; acquisition and management of local food stocks; and access to information on prospective market changes.

The multidimensional nature, and the sheer scale and complexity, of the challenge of rural economic transformation make effective policy coordination essential. As noted in Chapter 1, rural development clearly cannot be considered in isolation from urban development. However, the two are very different in nature. Moreover, the 2030 Agenda for Sustainable Development both increases the relative importance of rural development, and widens still further the difference between the development models needed for rural and urban areas.

An effective interministerial coordinating mechanism is needed.

In practice, however, the long-observed urban bias in policymaking persists, and rural development policy is generally focused primarily on agriculture, while the RNFE is "orphaned", lacking any specific public agency responsible for its development, any effective mechanism for policy coordination and any organized interest group to promote it. Responsibility for the RNFE is often divided across ministries of agriculture (for agroprocessing), industry, commerce, business development, etc., and regional public institutions, while rural social and economic infrastructure falls to ministries of works, health, education and transport. Even where ministries of rural development exist, their primary focus is generally on social investments and agriculture (Wiggins, 2014).

This indicates the need for an effective interministerial coordinating mechanism, including all relevant ministries, and chaired by the head of government or someone at the highest level of government, to establish a

comprehensive and coherent strategy for rural economic transformation; to monitor performance; and to ensure that timely remedial action is taken.

By its nature, however, rural development is as much a local process as a national one, requiring action at subnational levels down to individual villages. Consequently, decentralization of decision-making, to the extent practicable given financial and human resource constraints, is also an important aspect of effective policymaking for rural development (Wiggins, 2014). However, the potential for decentralization to the local level is limited in many remote and isolated areas: Almost by definition, areas remote from markets are at least equally remote from public institutions. Hence, the instruments directly available to public authorities to effect change at the village level are at one or two steps removed. While the key role of existing and emerging rural hubs in rural development highlights the need to develop or strengthen public institutions at this level, including through village-level extension services, the potential to do so will often be limited by financial and human resource constraints, and it is important to be realistic about their capacity and capabilities.

Cooperatives, producers' associations, women's networks and extension service providers can play a critical role at the local level…

This underlines the importance of formal and informal organizations and networks at the local level as catalysts of rural economic transformation. Cooperatives, producers' associations, women's networks and extension service providers (both official and volunteers), in particular, can play a critical role in many key areas, including access to finance and inputs, technological upgrading, vocational training and learning, acquisition of business skills, harnessing economies of scale, lowering costs through collective procurement and sharing of equipment, facilitating product marketing, strengthening bargaining power of small producers, and developing more effective and equitable supply chains. Women's networks have a particularly important role, not only in empowering women and overcoming gender-based obstacles to rural development, but also in promoting participation in other, non-gender-based (and often male-dominated) community associations and networks, and in civil society more broadly, and in the delivery of literacy and health programmes (ILO, undated).

Rural organizations and networks more generally can also help to strengthen the social capital and trust in transactions essential to the development of market-oriented economies, and provide a channel for informing and influencing decision-making (World Bank, 2007). By creating an organized constituency for rural development, they can also help to correct urban bias in policymaking.

…and can be promoted by streamlining establishment procedures, direct support and inclusion in service delivery.

There is therefore a strong case, not only for streamlining procedures for the establishment of such organizations and networks, but also for proactively encouraging and supporting their development through training, mentoring and promoting connections and networking among similar groups in different communities. Explicitly including organizations and networks in the delivery of interventions and services such as training, finance and input supply can play a very valuable role in strengthening and consolidating them (and incentivizing their creation), provided appropriate practical and material support is available to enable them to fulfil their designated role. International NGOs may provide an important source of such support, which would also be an appropriate use for additional ODA (Section D.1).

D. International dimensions

The 2030 Agenda for Sustainable Development represents an extraordinarily ambitious undertaking, and nowhere more so than in rural areas of LDCs. Here,

achieving the SDGs will require increasing minimum incomes to $1.25 per person per day, from a level below a tenth of that in some areas, and providing access to water to some 600 million people, and electricity and sanitation to some 900 million in just 15 years.

The SDGs will require major changes at the international level, as well as a fundamental reorientation of development approaches.

These goals signal a fundamental shift in global priorities towards meeting the basic needs of all those hitherto excluded from the benefits of globalization, within planetary resources and global climate constraints. Ensuring economic as well as environmental sustainability will require a different approach to development, centred on a process of poverty-oriented structural transformation; and central to this will be the transformation of rural economies.

As well as a fundamental reorientation of approaches to rural development within LDCs, this will require major changes at the international level, most notably in development cooperation. However, as the eighteenth-century philosopher Immanuel Kant observed:

> Whoever wills the end, wills also (so far as reason decides his conduct) the means in his power which are indispensably necessary thereto.
>
> (Kant, 1873, para. 24)

Delivering on their SDG commitments will require all members of the international community to "will the means" needed to achieve the goals.

This is generally translated into the philosophical principle that "to will the end is to will the means". In adopting the 2030 Agenda for Sustainable Development and the SDGs, the international community has clearly and explicitly willed an end: that of eradicating extreme poverty and material deprivation by 2030, while ensuring environmental sustainability. Delivering on this commitment will require the members of that community to go on to will the means within their power that are essential to the achievement of that end, including the necessary changes in the international economic system and development cooperation, as well as in national policies.

1. Mobilization of external resources

The financial costs of rural economic transformation will be very considerable, not only for infrastructure investment, but also for training and human resources development, financial support for agricultural upgrading and enterprise development, agricultural R&D, extension services, support to producers' associations and women's networks, etc. Adequate resources are also essential to effective policymaking, particularly with a substantial level of decentralization. While there may be some scope for harnessing private-sector financing for some of these uses, most of these resources will in practice need to come from the public sector,[2] and in many cases public funding will be needed even to catalyse private investment.

The financial costs of rural economic transformation will be very considerable.

In principle, such expenditures — especially recurrent expenditures — should come from domestic sources as far as possible; and building the revenue base of the public sector, through widening the tax base, diversifying revenue sources and strengthening tax administration is essential. Improved global governance of taxation could also make a substantial contribution, by limiting the scope for tax avoidance and evasion and for abuses such as transfer-price manipulation (UNCTAD, 2014a, p. 137). One or two LDCs may be able to generate a substantial proportion of the resources required in the next 15 years by harnessing large-scale resource rents from energy exports; and a few others close to transition may also have sufficiently favourable economic prospects and sufficiently limited needs and low costs to bear a significant part of the costs before 2030.

In the great majority of LDCs, however, meeting the public financing needs of achieving the SDGs sustainably will undoubtedly need to be met from ODA. In principle, part of the public financing needs of rural transformation could be met by borrowing on international markets; and, with insufficient ODA, current very low interest rates may make this appear an attractive option to those LDCs with market access. However, the experience of the 1980s debt crisis affecting many LDCs — which extended well into the twenty-first century in many African LDCs — amply demonstrates the dangers of commercial borrowing to fill large financing gaps left by inadequate ODA (Woodward, 2013, pp. 18–19, 32–38). With the possible exception of those with large-scale resource rents from energy exports, this is unlikely to be a viable or sustainable option for LDCs.

In the great majority of LDCs, the costs of achieving SDGs substantially will need to be met from ODA.

Target 17.2 of SDG 17 is for "developed countries to implement fully their ODA commitments", including commitments to provide 0.7 per cent of GNI in ODA to developing countries and 0.15–0.20 per cent to LDCs. However, a strong case can be made for increasing the latter percentage well beyond 0.2 per cent. LDCs account for some 40–50 per cent of global needs to meet the SDGs in terms of extreme poverty and increased access to water and electricity; and their ability to finance SDG-related infrastructure investment is much more limited than that of ODCs.

In the context of the 2030 Agenda for Sustainable Development, this presents a strong case for increasing the target for ODA to LDCs to at least half of the overall ODA target — that is, to 0.35 per cent of donor GNI. This would increase the amount from an actual level of around $40 billion in 2013–2014 to some $165 billion per annum in 2015 and $250 billion per annum by 2030, broadly commensurate with the increase in rural infrastructure investment needed to fulfil the SDGs (chart 1.12). This should not, and need not, prevent a major increase in allocations to other developing countries, which will also have substantial needs for infrastructure and other investment in order to achieve the new goals: Provided the 0.7-per-cent target is also met, such an increase in ODA to LDCs could be achieved while also expanding total ODA to ODCs by around 150 per cent over the same period.

A target of 0.35 per cent of donor GNI for ODA to LDCs would increase flows from $40 billion to $250 billion by 2030.

While such an increase in ODA will be essential to achieve the rural economic transformation needed to meet the SDGs sustainably, it is important to ensure that it reduces financial dependency rather than increasing it. This further underlines the importance of ensuring that ODA contributes to a solid economic development process, rather than seeking to address human development needs through stand-alone measures, so as to generate the domestic public and private resources needed for a self-sustaining development process.

The composition of aid flows also needs to be carefully examined. The MDG-led focus on human development has allowed a very welcome reduction in the underfunding of social sectors; but, in combination with the continued failure of most donors to fulfil their existing commitments on total ODA, it has diverted resources away from productive sectors (UNCTAD, 2014a, Chapter 2). This neglects the need for a process of poverty-oriented structural transformation to make gains in human development economically sustainable. This imbalance can be rectified, while continuing to increase the funding for social sectors (which is also essential to achieving the SDGs), by directing a substantial proportion of additional aid to productive sectors, particularly in rural areas. Support to agricultural R&D and extension, technology adoption and human resources development are particular priorities. The need to reduce financial dependency also highlights the importance of strengthening governments' capacity to raise public revenues as a high and early priority for ODA allocations.

A substantial proportion of additional aid should be directed to productive sectors, particularly in rural areas.

Support to improved collection and processing of data on rural communities and economies can also contribute significantly to effective policymaking (box 5.3).

Box 5.3. Better rural data for better rural policies

Statistics are vital to assess the social and economic situation of the inhabitants of an area, to design policies and interventions effectively and to assess policy impacts. However, as discussed in Chapters 3 and 4, statistical information on rural areas is scarce, and its interpretation problematic, despite significant improvements in access to reliable and relevant national statistics more generally in several LDCs. Population and housing censuses and national household surveys provide a broad approximation of the development in rural areas but do not furnish sufficient depth of information to give a complete picture of rural life and economies in LDCs. Even data on basic indicators such as non-farm employment and income sources in rural areas are not systematically collected or published, and are unavailable or outdated for the great majority of LDCs.

In light of the critical importance of rural development, ILO is conducting an innovative project on decent work in the rural economy. It has prepared an in-depth inventory of national definitions of rural and urban areas, on which basis it has used the Labour Force Survey to construct a set of disaggregated indicators of decent work (e.g. employment, unemployment and labour force by sex, age and geographical area). Another important data source is agriculture censuses conducted under the umbrella of the FAO World Programme for the Census of Agriculture, which have been or are to be conducted in several LDCs (including Afghanistan, Angola, Cambodia, Chad, Gambia and Lesotho).

While financial and human resource constraints make external support essential, national prioritization of rural data collection is also important. Building national capacities for data collection and analysis and effective use of ICT, with the support of international organizations and donors, can make a major contribution. For example, scanning technology allowed a major reduction in data capture time in Malawi's 2008 Population and Housing Census. While this required a substantial amount of human and financial resources, due to inadequate monitoring and supervisor training, learning lessons from this and other experiences can reduce such costs and increase effectiveness in the future (Msosa, 2009). This points to a need for increased sharing of such lessons among LDCs.

Aid effectiveness is as much a part of donor commitments on ODA as amounts and allocations.

Aid effectiveness is another key issue, and as much a part of the donor commitments referred to in target 17.2 (under the 2005 Paris Declaration, the 2008 Accra Agenda for Action and the 2012 Busan Partnership[3]) as amounts and allocations. There is a growing consensus around the principles established in these agreements to eliminate tying, to reduce the unpredictability of aid flows, to deal with the fragmentation of flows among sources and destinations, and to transfer ownership of aid programmes to recipient countries. However, although the measures taken as part of the aid effectiveness process are encouraging, much more progress is needed to realize these ideals, particularly to strengthen mutual accountability and country ownership.

It is also important to ensure that ODA conditionalities provide the policy flexibility needed for recipient countries to pursue nationally appropriate strategies and to allow opportunities for learning and experimentation. Other issues of particular relevance to the policy options discussed in this chapter are untying aid to allow local procurement (and to ensure that procurement processes are not biased against local providers, particularly SMEs); encouraging the adoption of labour-based methods in construction; ensuring that rural infrastructure projects are timed to coincide with seasons of low labour demand; and ensuring that the sequencing of rural infrastructure development maximizes the long-term effect on rural transformation.

Much more progress is needed to strengthen mutual accountability and recipient country ownership.

China and other emerging economies are now providing considerable financial assistance to African LDCs, much of it for transport infrastructure. This support generally takes the form of grants and low-interest loans to countries with low credit ratings. China Development Bank, the largest of the country's three policy banks, has reportedly granted more loans to Africa as a whole over the past six years than the World Bank, the African Development Bank and the Asian Development Bank combined;[4] and the Chinese Government has indicated that it will provide $1 trillion in financing to the continent by 2025, including support from State-owned banks (Alessi and Xu, 2015).

Resources on this scale could go a considerable way towards meeting the rural infrastructure needs of LDCs in the region, although appropriate debt management will be necessary to avoid over-indebtedness. However, the

developmental impact could be enhanced by increasing the focus on rural feeder roads relative to transport corridors, and by increasing the use of local labour, including at supervisory, technical and managerial levels.

Purpose-specific funds may have a role to play in priority areas.

Purpose-specific funds may have a role to play in priority areas such as women's empowerment. UNCTAD (2014a, pp. 146–149) has proposed Female Rural Entrepreneurship for Economic Diversification (FREED) as an international support mechanism to promote women's engagement in the non-farm sector. In the agricultural sector, the World Bank and the ONE Campaign have proposed a challenge fund to provide technical assistance to African policymakers for the implementation of policies to support women farmers (World Bank and ONE, 2014). This might usefully be extended to encompass non-African LDCs, and could be linked to the Aid for Trade initiative and the Enhanced Integrated Framework, to engender these frameworks and marshal resources through them. More generally, gender considerations should be included in the formulation and implementation of existing funds, as in the African Development Bank's Agriculture Fast Track Fund.

Diaspora direct investment may have greater potential than traditional FDI to finance rural infrastructure investment.

In relation to commercial financing, less conventional forms of cross-border investment such as diaspora investment may offer greater potential than traditional FDI to finance rural infrastructure investment in LDCs (UNCTAD, 2014a, pp. 119–120, 138). While dependence on high-income migration, together with limited educational opportunities in more remote areas, are likely to skew diaspora investment towards peri-urban areas, such investment could nonetheless release public resources and ODA for use elsewhere. Its contribution could be enhanced by moving beyond diaspora bonds to consideration of diaspora direct investment, including, for example, encouraging pooling of resources by diaspora investors to increase economies of scale. If extended to non-farm activities, the Diaspora Investment in Agriculture Initiative launched by the United States Department of State and the International Fund for Agricultural Development (IFAD) in 2011 (IFAD, undated) could facilitate diaspora investments for rural structural transformation.

Development of proactively "ethical" investment vehicles could provide an additional source of private financing.

Another possible source of private financing would be the development of proactively "ethical" investment vehicles. While "ethical" investment funds have grown considerably in recent years, they are generally based on a negative-list approach, pursuing investment strategies similar to other investment funds, but excluding companies in sectors such as tobacco, alcohol, armaments and fossil fuels. However, the ethos of solidarity and sustainability embodied in the SDGs, and the growth of the social enterprise sector, are indicative of a growing desire to combine personal gain with providing wider benefits — to "do well by doing good". At the same time, reduced public provision of pensions and the shift from social to private health insurance in some developed countries has greatly widened the market for investment funds to encompass, for example, public servants, voluntary sector workers and employees of religious organizations. Since many people in these categories are oriented as much towards societal goals as towards private gain, this suggests there is a significant and growing market for investment vehicles that espouse stronger and more explicit ethical principles than those which characterize existing "negative-list" approaches.

This points to the existence of a potentially significant niche market for proactively ethical investment funds, not pursuing a conventional return-maximizing approach with certain sectoral constraints, but rather seeking an acceptable combination of return and risk (optimized through risk pooling) while maximizing contribution to the achievement of social goals. This could potentially provide greater funding for developmentally and environmentally focused investments in LDCs than has occurred under existing arrangements. Simply creating a distinct category of ethical investment funds that meet this criterion would provide a basis for (for example) people working on development

and environmental issues in the public and voluntary sectors to press their employers and pension funds to invest part of their resources in such vehicles. This could be strengthened by regulatory measures, for example requiring funds described as "ethical" to publish the proportion of funds invested in proactively ethical vehicles (generating market pressure to increase the proportion) or to invest a minimum proportion in such vehicles in order to use the term "ethical".

Investments oriented towards social goals in rural areas of LDCs, whether in infrastructure or to increase incomes, would clearly fit into this category; and the global publicity for the 2030 Agenda could readily be harnessed by providers of proactively ethical investment vehicles to market their products. It might also be possible to combine funding from such sources with diaspora investment funds (for example as "global solidarity funds" and "local solidarity funds") to maximize the synergies between the two — increasing the resources available to diaspora (impact) investors, and the local knowledge and contacts available to international ethical funds.

For LDCs, WTO commitments to duty-free and quota-free market access are more important than multilateral tariff reduction.

2. Trade

Average tariffs on LDC exports have decreased over time, in line with global declines in most-favoured-nation (MFN) tariffs, preference schemes, and the World Trade Organization (WTO) Decision on duty-free, quota-free market access. However, relatively high duties persist on a number of products of importance for LDC producers, especially in agriculture and clothing, and significant distortions remain in agriculture, especially due to the use of subsidy measures. LDCs have repeatedly highlighted that these issues should be addressed as a matter of priority in the Doha Round negotiations.

The potential benefits to LDCs of further multilateral tariff reduction are offset by its effect in eroding the preference margins afforded by their existing preferential trade arrangements with most major markets. Of greater importance, therefore, is the implementation (by all developed countries and by developing countries in a position to do so) of WTO commitments to "provide duty-free and quota-free market access on a lasting basis, for all products originating from all LDCs by 2008 or no later than the start of the implementation period in a manner that ensures stability, security and predictability", as agreed at the 2005 Ministerial Conference (WTO, 2005, Annex F, para. 36(a)(i)). Although some progress has been recorded in this regard, full implementation remains to be achieved.

LDCs should find an equitable common position to ensure full implementation of the duty-free and quota-free commitments.

Consensus among the LDCs on advancing the duty-free, quota-free agenda has been impeded by differences among LDCs in market access conditions under the United States Generalized System of Preferences (GSP) and the African Growth and Opportunities Act (AGOA). Resolution 21 (ii), adopted at UNCTAD II (New Delhi, 1968), established non-discrimination as one of the fundamental principles of granting trade preferences. Accordingly, LDCs should find an equitable common position to ensure full implementation of the duty-free, quota-free commitment by the remaining developed and developing countries, taking existing trade preferences into account where possible.

There is also substantial scope for improvements in the terms of existing preferential arrangements for LDCs. Substantial benefits could arise from increasing the lifespan and predictability of preferential arrangements such as AGOA, so as to encourage longer-term (rather than footloose) investments in export sectors, with greater rootedness in local economies, and from less restrictive rules of origin. In the latter context, value added rules could be liberalized to take account of the fragmentation of production and global value chains, and to allow regional or global cumulation among beneficiary countries.

This would help to encourage intraregional trade in intermediate goods among LDCs and other members of regional trade arrangements. Full implementation of the WTO 2013 Bali Ministerial Decision on preferential rules of origin could also help to facilitate the more effective use of preferential arrangements.

In addition, consideration could be given to establishing and promoting a new "sustainable development brand" linked to the SDGs, sourced from value chains controlled by producers in LDCs (and possibly similarly disadvantaged regions of ODCs) themselves.[5] One of the key obstacles to development in LDCs is the dominant model of consumerism among the global elite and middle class, which is based on uniformity of products and conformity of consumers. This skews demand in the most lucrative markets towards the large-scale capital-intensive production typical of TNC-led value chains; but LDCs struggle to compete for segments of such value chains, particularly higher value added segments, because they lack the basic conditions that help to attract TNC investment: Good and reliable infrastructure, a healthy and productive workforce, high levels of education and skills, macroeconomic and political stability, favourable living conditions for expatriate workers, and so forth.

A new "sustainable development brand" linked to the SDGs could offer development benefits…

As global value chains increasingly dominate global trade, this is an ever more important constraint to export growth and diversification among LDCs; and it represents a major barrier to the economic transformation required to attain the conditions needed to attract TNCs and participate beneficially in global value chains. This may be seen as a national counterpart of the contradiction between need and opportunity for economic diversification observed at the household and local levels, as discussed in Chapter 3.

An actively promoted "sustainable development brand" could provide a way out of this impasse, by challenging the features of consumerism that currently obstruct LDCs' export opportunities, and by developing a global niche market emphasizing diversity, distinctiveness and non-conformity, promoting an "ethnic chic" ethos, and appealing to principles of global solidarity and sustainability. The existing demand for products bearing fair trade and sustainability labels demonstrates the existence of a significant niche market in which premiums are paid for products perceived as contributing positively to ethical goals; and the 2030 Agenda for Sustainable Development, by fostering an ethos of greater global solidarity and environmental sustainability, could provide a considerable further boost to such demand. If effectively harnessed through astute marketing, and provided rigorous quality control could be maintained, this could greatly increase export demand and value added for SMEs in LDCs, not least in rural areas, for goods such as clothing, accessories, footwear, household fabrics, furniture, ornaments, toys, processed foods, artwork and traditional craft products.

…by challenging the features of consumerism that obstruct LDCs' export opportunities, and developing a global niche market.

3. Developmental regionalism for rural development

UNCTAD has long advocated developmental regionalism, as a powerful tool for the structural transformation of LDCs (UNCTAD, 2011, 2013). This approach is particularly important to rural development and may therefore be of value to LDCs in their rural development strategies.

Developmental regionalism is particularly important to rural development.

Developmental regionalism is regional integration that aims to maximize the developmental benefits of regional cooperation, with the ultimate goal of achieving an advantageous insertion of members' economies into world markets. It combines gradual and sequenced trade liberalization with policies to build up member countries' productive capacities. It thus goes beyond the creation of larger regional markets through trade liberalization to encompass joint initiatives in the fields of industrial policy; provision of infrastructure and other public goods; transboundary development corridors that cluster

different types of economic activity around particular infrastructure projects; R&D; harmonization of standards; etc. This approach has been implemented successfully in the Greater Mekong Subregion of South-East Asia (UNCTAD, 2011, pp. 100–105), and there are initiatives moving in a similar direction in Africa (UNCTAD and UNIDO, 2011, pp. 79–84; UNCTAD, 2013, pp. 95–121). Two examples demonstrate the potential of developmental regionalism for rural transformation in LDCs.

There is significant potential for the creation of regional value chains in agriculture and agroprocessing.

First, there is significant potential for the creation of regional value chains in agriculture and agroprocessing, which could contribute to economic diversification, increased productivity, food security, job creation and poverty alleviation. Geographical proximity, economic size and cultural affinity create the potential for countries in the same region to increase intraregional trade in agriculture-based products. Integration into regional markets for these products is strong in Asian LDCs (which direct 85 per cent of their agricultural goods to regional markets); but it is much weaker in African LDCs and Haiti (where the corresponding share is just 26 per cent) and island LDCs (approximately 10 per cent), where the development of regional agricultural value chains is held back by infrastructure deficits, poor competitiveness in production and trade, and weak implementation of regional integration initiatives.

However, regional value chains and markets could help these countries to overcome the constraints of small national markets and optimize the use of their diverse but fragile agroecological systems. Developmental regionalism can contribute to this by simplifying regional cross-border movements of goods, financing and capital; strengthening regional infrastructure in transport, energy, communications and water; harmonizing regional regulations; standardizing consumer and industrial regulations (e.g. environmental and safety standards); developing cross-border production clusters dealing directly with strategic value chains; and developing a regional marketing strategy. Instead of raw agricultural commodities and related jobs and processing industries being exported, strengthening forward linkages with agribusiness and agroprocessing could significantly increase employment and non-farm incomes for rural populations in many LDCs (UNECA and African Union Commission, 2009).

Regionally based R&D centres and extension programmes could help overcome constraints to agricultural productivity growth.

Second, regionally based R&D centres and extension programmes for agriculture can overcome some of the most binding constraints to faster agricultural productivity growth. This would allow countries in the same region to pool resources, undertake joint agricultural R&D and strengthen the structure and human resources of their agricultural extension services, taking advantage of the similarity of agroecological conditions and the commonality of challenges facing producers in different countries in the region. By allowing the exploitation of economies of scale, this could make a significant contribution to countering the low level of spending on agricultural R&D, particularly in the smaller LDCs, and to overcoming the problem of excessively small national agricultural innovation systems (Chapter 2).

Establishing effective collaboration arrangements for information-sharing in agricultural R&D within and between regions can thus significantly enhance its benefits, as can information-sharing among extension workers in different countries within regions. An effective global network of national and regional R&D centres in LDCs (regions being based primarily on agroecological considerations) could thus provide an effective means of sharing appropriate technologies and adapting them to local needs, particularly if combined with the two-way relationship between national R&D centres and small farmers, through extension workers, outlined in Section C.2 above.

F. Conclusion

More than ever, rural economic transformation will be central to development in LDCs in the post-2015 era; and the SDGs signal both the need and the opportunity for a new approach, given the gap between the progress required by 2030 and that achieved in recent decades. This chapter has highlighted some elements of such an approach.

- Successful rural economic transformation depends on a combination of agricultural upgrading and development of non-farm economies, maximizing the synergies between the two.
- Sequencing investments and interventions is critical, to ensure that producers are ready to respond effectively to increased demand and to market opening when they happen.
- Affordable financing is essential: Options may include interest subsidies on microcredit subject to interest ceilings, and in-kind microgrants in remote and isolated areas.
- Agricultural upgrading requires higher and more stable R&D spending, and strong extension services acting as a two-way conduit between R&D agencies and small farmers.
- Adult education and training is important as well as sending children to school, and it should include financial literacy and vocational and business skills as well as basic literacy and numeracy.
- An enabling environment for enterprise requires attention to the demand side as well as the supply side. Information about prospective changes in demand and market conditions is a key element.
- Effective policy coordination is essential at the national level; and producers' associations, cooperatives and women's networks have an important role at the local level.
- Fulfilment by donors of their commitments on ODA quantity and quality will be essential; and there is a strong case for increasing the target for ODA to LDCs to 0.35 per cent of donor GNI.
- Innovative approaches to trade and cross-border investment could make a significant contribution to rural transformation in the post-2015 context.
- Developmental regionalism can also have substantial benefits, particularly in sub-Saharan Africa, as can regional and interregional collaboration in agricultural R&D.

The policy recommendations presented in this chapter are summarized in table 5.1.

Table 5.1. Summary of policies for poverty-oriented structural transformation (POST) of rural economies in the post-2015 era

		Peri-urban areas	**Intermediate areas**	**Remote/isolated areas**
GOALS		**Sustained development, economic diversification and economically sustainable poverty in rural areas**		
		Reduced "push" pressures for rural-urban migration, allowing migration by choice and a sustainable rate of urbanization		
Key policy objectives		Better coordinated and better informed policymaking on rural development		
			Adequate and reliable supply of and access to staple foods	
		Agricultural upgrading: sustainable increase in productivity and diversification towards higher-value crops and livestock		
		Rural economic diversification through development of viable non-farm activities		
		Infrastructure development, maximizing impact through labour-based construction, local procurement, phasing and preparation		
		Effective supply response: establishment of preconditions (Phase 1) and facilitation (Phase 2)[2]		
		Shift from "entrepreneurship by necessity" to "entrepreneurship by choice"		
		Enterprise expansion	Enterprise consolidation	Establishment of dynamic microenterprises
		Viability and dynamism of small farms and non-farm enterprises		
		Establishment and consolidation of producers' associations, cooperatives and women's networks		
Priority activities[1] ("Picking possibles")		High-value foods and agroprocessing (L/U), leisure activities (U), rural-urban transport services (L/U)	High-value foods (L), export crops, agroprocessing (L/U/X), livestock (L/U/X); biofuel crops and processing (L/U); commercialization of crafts (U/X)	Staple foods (L), artisanal agroprocessing (L), agricultural inputs (L), Z goods (transitional in Phases 1-2) (L), higher-value agriculture and livestock (mainly Phases 2-3)[2] (L)
			Where appropriate: tourism (U/X), fisheries (L/U/X), community/ sustainable forestry (U/X), mining (X)	
		Construction materials and construction-related services		
Agriculture		Agricultural R&D and extension services: * Increase public funding and improve its stability (N, D) * Establish effective communication process between producers and R&D agencies through extension workers (E, R) * Identify and support local farm advisers, linked to extension services (E) * Proactively recruit and train small farmers and women, especially from remote/isolated areas, as extension workers (E) * Design training of/by extension workers to address circumstances of small, women and other disadvantaged farmers (E)		
		Agricultural right-sizing: Focus on plot sizes appropriate to crops in local circumstances, based on social, economic and environmental objectives (N)		
		Identify and address constraints on extending cultivated area (where appropriate) (S)		
		Address constraints on women's land and inheritance rights (N, S)		
		Implement subsidy or voucher schemes for inputs, based on packages of inputs and extension services, if possible for all local agroecological conditions and farming systems (N, S)		Offer in-kind microgrants of productive inputs, combined with extension services and training (N, S, D, NG, E)
		Promote organic, fair trade and sustainability certification (N, S)		
Infrastructure investment (G, S, D, NG, P)[3]		Maximum use of labour-based construction methods and local procurement		
		Local recruitment in rural areas, and recruitment from surrounding rural areas in hubs, towns and cities, including of skilled and supervisory staff		
		Inclusion of on-the-job training in labour-based infrastructure projects		
	Phase[2] 1	Assessment of needs and potential (e.g. for water and electricity supply)		
		Electrification		
		Water, sanitation, school and health facility expansion; agricultural infrastructure (irrigation, drainage, terracing, etc.)	Water supply (where not labour-intensive); school and health facility expansion	
	2		Water (where labour-intensive); sanitation; school and health facility construction; agricultural infrastructure (irrigation, drainage, terracing, etc.); roads to local hubs	
	3		Rural-urban roads	
			All remaining infrastructure needs	
Public finance		Increase ODA to LDCs to 0.35% of GNI, aligned with national development strategies, and increase the proportion for productive sectors (D)		
		Strengthen and diversify the public revenue base and tax collection capacity (N)		

Table 5.1 (contd.)

Private investment finance	Offer interest subsidies on microcredit, conditional on interest rate ceiling and minimum maturity (N)	Offer in-kind microgrants of productive inputs, combined with extension services and training, progressively shifting towards subsidized credit in Phases 2 and 3 (N, S, D, NG, E)
	Orient microcredit towards SMEs and "entrepreneurs by choice" (N, S)	
	Link microcredit to training in financial literacy, business/vocational skills, and mentoring (S, NG, P)	
	Encourage lending via producers' associations, cooperatives and women's networks (N, S, NG, P)	
	Mainstream gender in financing programmes (N, S, NG, P)	
	Target financing programmes for women where particularly marginalized (N, S, NG, P)	
	Search for more effective and pro-poor financing mechanisms (N)	
	Set up mechanisms for diaspora direct investment, impact investment and risk pooling (N, S, NG)	
Human resources (N, S, NG)	Adult education: basic literacy, numeracy and financial literacy	
	Training in enterprise, business and management skills	
	Vocational training in skills for priority sectors, including electricians and mechanics, conditional on subsequent engagement of apprentices	
	Training in construction-related activities, linked to employment on infrastructure projects	
	Prioritization of women in adult education and training where their educational attainment is lower	
	Urban-rural transfer of vocational and business skills by migrants through circular migration and temporary placements with urban employers	
Institutions	Establish and maintain policy coordination mechanism for rural development, chaired at the highest level of government (N)	
	Strengthen labour rights and enforcement and promote decent work agenda (N, S)	
	Streamline establishment procedures for producers' associations, cooperatives and women's networks (N, S)	
	Support and facilitate development of producers' associations, cooperatives and women's networks, and use them as channels for support to producers (N, S, D, NG)	Promote development and formalization of existing social networks, including women's networks (S, NG)
	Improve data collection, statistics and analysis, including a labour market information system and observatory (N, S)	
Other and cross-cutting	Estimate prospective changes in demand, based on household expenditure data, and in market conditions, and make available as a public good (N, S)	
	Extend mobile phone network coverage (N, P)	
	Use radio as means of mass communication and information and distribute radios where appropriate (S)	
	Establish incentives for development-friendly and gender-inclusive integration in GVCs (N)	
	Promote development of supplier-led value chains and direct linkages between producers and outlets in other countries (N, S, NG)	

Notes: *1* Primary markets: X = export; U = urban; R = wider rural; L = local.
2 Phases: Phase 1 = Focus on establishing preconditions for supply response;
Phase 2 = Focus on kick-starting markets by increasing demand through labour-based infrastructure investment and promoting effective supply response; and on preparing enterprises in remote and isolated areas for exposure to wider markets and increased competition;
Phase 3 = Focus on market opening through rural-urban transport links and on ensuring continued enterprise viability.
3 Principal agents: N = national government; S = subnational authorities/agencies; E = extension services; D = donors; NG = NGOs.

Notes

1 In the case of private commercial investment in services provision from outside the local economy, the financial effect is rather comparable to foreign direct investment in non-tradable services, which is less favourable over the longer term due to outflow of profits from the local economy in subsequent years.

2 While some such investment could in principle be undertaken on a commercial basis, in rural areas of LDCs the potential is limited as the main investments required are in sectors that are of limited commercial interest (e.g. sanitation and education for unserved populations), problematic in terms of achieving social goals (e.g. health services), and where incentives for international investment are limited by the fragmented nature and/or low financial rates of return on the investment required (e.g. water and electricity supply in sparsely populated rural areas). Moreover, the conditions that make a market attractive to FDI in non-tradable sectors — large and growing domestic markets and economic and political stability — are largely absent.

3 OECD (2008; 2012).

4 "China rail group signs $5.5bn in Africa deals", Financial Times. 28 April 2015.

5 Existing fair trade suppliers of non-food products, such as Just Business in Scandinavia and Wereldwinkels in the Netherlands, could provide a useful starting point for such an approach, although it would require a more proactive and resource-intensive approach to marketing and integration with mainstream retail outlets.

References

Alessi C and B Xu (2015). China in Africa. CFR Backgrounders, Council on Foreign Relations. 27 April. Available from http://www.cfr.org/china/china-africa/p9557.

Barrett C, M Carter and CP Timmer (2010). A Century-Long Perspective on Agricultural Development. *American Journal of Agricultural Economics*. 92(2): 447–468.

Beck T, S Maimbo, I Faye and T Triki (2011). Financing Africa through the Crisis and Beyond. Federal Ministry for Economic Cooperation and Development, Germany, and World Bank.

Binswanger H, K Deininger and G Feder (1995). Power, Distortions, Revolt and Reform in Agricultural Land Relations. In: Behrman J and TN Srinivasan, eds. *Handbook of Development Economics, Volume 3B*. North Holland. Amsterdam.

Binswanger-Mkhize H and A McCalla (2010). The Changing Context and Prospects for Agricultural and Rural Development in Africa. In: R Evenson and P Pingali, eds. *Handbook of Agricultural Economics, Volume 4*. North Holland. Amsterdam.

Carpano F (2011). *Strengthening Women's Access to Land into IFAD Projects. The Rwanda Experience.* International Fund for Agricultural Development. Rome.

Carr M and M Hartl (2010). *Lightening the Load: Labour-saving Technologies and Practices for Rural Women.* International Fund for Agricultural Development. Rome.

Carton M and C Kingombe (2012). TVET Scoping and Advisory Mission to Sierra Leone 2012. Diagnostic Report. International Growth Centre. London. December.

Dercon S (2009). Rural Poverty: Old Challenges in New Contexts. *World Bank Research Observer*. 24(1): 1–28. February.

Dethier J-J and A Effenberger (2012). Agriculture and Development: A Brief Review of the Literature. *Economic Systems.* 36: 175–205.

Dolan C (2001). The 'Good Wife': Struggles over Resources in the Kenyan Horticultural Sector. *Journal of Development Studies.* 37(3): 39–70.

Druilhe Z and J Barreiro-Hurlé (2012). Fertilizer Subsidies in Sub-Saharan Africa. ESA Working Paper 12-04. Food and Agriculture Organization of the United Nations. Rome, July.

Duvendack M, R Palmer-Jones, J Copestake, L Hooper, Y Loke and N Rao (2011). What is the Evidence of the Impact of Microfinance on the Well-Being of Poor People? EPPI-Centre, University of London. London.

Eastwood R, M Lipton and A Newell (2010). Farm Size. In: R Evenson and P Pingali, eds. *Handbook of Agricultural Economics, Volume 4.* North Holland. Amsterdam.

FAO (1998). *The State of Food and Agriculture 1998: Rural Non-farm Income in Developing Countries.* Food and Agriculture Organization of the United Nations. Rome.

FAO (2002). A Guide to Gender Sensitive Microfinance. Socio-Economic and Gender Analysis Programme. Food and Agriculture Organization of the United Nations. Rome.

FAO (2011). *The State of Food and Agriculture 2010–2011: Women in Agriculture: Closing the Gender Gap for Development.* Food and Agriculture Organization of the United Nations. Rome.

FAO, IFAD and ILO (2010a). Agricultural Value Chain Development: Threat or Opportunity for Women's Employment? Gender and Rural Employment Policy Brief 4. Food and Agriculture Organization of the United Nations. Rome.

FAO, IFAD and ILO (2010b). Investing in Skills for Socio-economic Empowerment of Rural Women. Gender and Rural Employment Policy Brief 2. Food and Agriculture Organization of the United Nations. Rome.

FAO, IFAD and ILO (2010c). Rural Women's Entrepreneurship Is 'Good Business'. Gender and Rural Employment Policy Brief 3. Food and Agriculture Organization of the United Nations. Rome.

Foster A and M Rosenzweig (2010). Microeconomics of Technology Adoption. Economic Growth Center Discussion Paper 984. Yale University. New Haven, CT.

Haggblade S, P Hazell and T Reardon, eds. (2007). *Transforming the Rural Nonfarm Economy: Opportunities and Threats in the Developing World*. Johns Hopkins University Press. Baltimore.

Hazell P and A Rahman, eds. (2014). *New Directions for Smallholder Agriculture*. International Fund for Agricultural Development. Oxford University Press. Oxford.

IFAD (undated). Diaspora Investment in Agriculture Initiative. International Fund for Agricultural Development. Rome. Available from http://www.ifad.org/remittances/pub/dia.pdf.

ILO (1999). *Decent Work*. International Labour Office. Geneva.

ILO (undated). Small Change, Big Changes: Women and Microfinance. International Labour Office. Geneva. Available from http://www.ilo.org/wcmsp5/groups/public/@dgreports/@gender/documents/meetingdocument/wcms_091581.pdf.

InterAcademy Council (2004). Realizing the Promise and Potential of African Agriculture. InterAcademy Council. Amsterdam.

Juma C and D Spielman (2014). Farmers as Entrepreneurs: Sources of Agricultural Innovation in Africa. In: P Hazell and A Rahman, eds. *New Directions for Smallholder Agriculture*. International Fund for Agricultural Development. Oxford University Press. Oxford.

Kant I (1873). *Fundamental Principles of the Metaphysic of Morals, Second Section: Transition from Popular Moral Philosophy to the Metaphysic of Morals* (TK Abbot, Trans.). Longman, Green and Co. London and New York. (Original work published by Johann Friedrich Hartknoch. Riga 1785.)

Lanjouw J and P Lanjouw (1995). Rural Nonfarm Employment: A Survey. Policy Research Working Paper 1463. World Bank. Washington, D.C.

Lanjouw J and P Lanjouw (2001). The Rural Non-Farm Sector: Issues and Evidence from Developing Countries. *Agricultural Economics*. 26: 1–23.

Liedholm C, M McPherson and E Chuta (2007). Enterprise Dynamics in the Rural Nonfarm Economy. In: Haggblade S, P Hazell and T Reardon, eds. *Transforming the Rural Nonfarm Economy: Opportunities and Threats in the Developing World*. Johns Hopkins University Press. Baltimore.

Maertens M and JFM Swinnen (2009). Are Modern Supply Chains Bearers of Gender Inequality? Paper presented at the ILO-FAO workshop "Gender Dimension of Rural Employment". Rome. 30 March–3 April.

Maloumby Baka RC and Kingombe, CKM (forthcoming). The Quest to Lower High Remittance Costs in Africa - A Brief Review of the Use of Mobile Banking and Bitcoins. Centre for Finance and Development Working Paper. Graduate Institute. Geneva.

Messy F-A and C Monticone (2012). The Status of Financial Education in Africa. OECD Working Papers on Finance, Insurance and Private Pensions 25. July.

Msosa A (2009). Challenges in Census Data Processing Using Contemporary Technologies: The Case of Malawi. National Statistical Office. Zomba, Malawi. Available from http://unstats.un.org/unsd/censuskb20/Attachments/2009MWI-GUID2bcdf5bd9e0341f68813deda2eab1e61.pdf.

OECD (2008). The Paris Declaration on Aid Effectiveness and the Accra Agenda for Action. Organisation for Economic Co-operation and Development. Paris. Available from http://www.oecd.org/dac/effectiveness/34428351.pdf.

OECD (2012). The Busan Partnership for Effective Development Cooperation. Organisation for Economic Co-operation and Development. Paris. Available from http://www.oecd.org/dac/effectiveness/Busan%20partnership.pdf.

OECD and AfDB (2008). *African Economic Outlook 2008: Developing Technical and Vocational Skills in Africa*. Organisation for Economic Co-operation and Development. Paris.

Pardey P, J Alston, J James, P Glewwe, E Binenbaum, T Hurley and S Wood (2007). Science, Technology and Skills. Background Paper for the World Development Report 2008. World Bank. Washington, D.C.

Reardon T (1997). Using Evidence of Household Income Diversification to Inform Study of the Rural Nonfarm Labor Market in Africa. *World Development*. 25(5): 735–748.

Sachs J (2005). *The End of Poverty: Economic Possibilities for Our Time*. Penguin Press. New York.

Staatz J and N Dembélé (2007). Agriculture for Development in Sub-Saharan Africa. Background Paper for the World Development Report 2008. World Bank. Washington, D.C.

UNCTAD (2009). *The Least Developed Countries Report 2009: The State and Development Governance.* United Nations publication. Sales No. E.09.II.D.9. New York and Geneva.

UNCTAD (2011). *The Least Developed Countries Report 2011: The Potential Role of South-South Cooperation for Inclusive and Sustainable Development*. United Nations publication. Sales No. 11.II.D.5. New York and Geneva.

UNCTAD (2013). *Economic Development in Africa Report 2013: Intra-African Trade: Unlocking Private Sector Dynamism.* United Nations publication. Sales No. E.13.II.D.2. New York and Geneva.

UNCTAD (2014a). *The Least Developed Countries Report 2014: Growth with Structural Transformation: a Post-2015 Development Agenda*. United Nations publication. Sales No. E.14.II.D.7. New York and Geneva.

UNCTAD (2014b). Who is Benefiting from Trade Liberalization in Rwanda? A Gender Perspective. Geneva: UNCTAD/DITC/2014/2. Geneva.

UNCTAD (forthcoming). *Commodities and Development Report 2015: Inclusive and Sustainable Commodity Development: the Case of Smallholder Farmers*.

UNCTAD and UNIDO (2011). *Economic Development in Africa Report 2011: Fostering Industrial Development in Africa in the New Global Environment*. United Nations publication. Sales No. E.11.II.D.14. New York and Geneva.

UNDP, CAADP and NEPAD (2013). Democratic Republic of Congo Investment Opportunities Brief. CAADP Investment Facilitation Programme. Johannesburg.

UNECA and African Union Commission (2009). *Economic Report on Africa 2009: Developing African Agriculture through Regional Value Chains*. United Nations Economic Commission for Africa. Addis Ababa.

UN Women and OHCHR (2013). *Realizing Women's Rights to Land and Other Productive Resources*. HR/PUB/13/04. New York and Geneva.

Wiggins S (2014). Rural Non-farm Economy: Current Understanding, Policy Options, and Future Possibilities. In: Hazell P and A Rahman, eds. *New Directions for Smallholder Agriculture*. International Fund for Agricultural Development. Oxford University Press. Oxford.

Woodward D (2013). A High Price to Pay: IMF Governance, Management of Developing Country Financial Crises, and Health Impacts. Background Paper. The Lancet–University of Oslo Commission on Global Governance for Health. January. Available from http://www.med.uio.no/helsam/english/research/global-governance-health/background-papers/imf-governance-health.pdf.

World Bank (2007). *World Development Report 2008: Agriculture for Development*. World Bank. Washington, D.C.

World Bank and ONE (2014). *Levelling the Field: Improving Opportunities for Women Farmers in Africa*. World Bank and the ONE Campaign. Washington, D.C.

WTO (2005). 2005 Doha Work Programme. Ministerial Declaration: Annexes Adopted on 18 December 2005. WT/MIN(05)/DEC. Geneva. 22 December. Available from https://www.wto.org/english/thewto_e/minist_e/min05_e/final_annex_e.htm.