Critical Transition 9.
Delivering Stronger Rural Livelihoods

	Better Futures Additional Investment Requirements 2030 *(USD billions)*	Better Futures Business Opportunity *(USD billions)*	Economic Prize from Hidden Cost Reductions *(USD billions)*	
 Stronger Rural Livelihoods	2030	2030	2030	2050
	$95 - 110	**$440**	**$300**	**$240**

Underlying all ten critical transitions is a vision of rural areas transformed into places of hope and opportunity, where thriving communities can adapt to new challenges, protect and regenerate natural capital and invest in a better future. Stronger rural livelihoods will be founded on the following elements:

- Better rural jobs created by a dynamic agricultural sector and growing opportunities for diversification in rural economies.
- An improving quality of rural life based on better access to services and digital technology, helping to dim the "city lights" effect that draws young people to urban areas.
- Greater resilience among rural communities owing to their improved access to information, technology, training and well-designed safety nets.
- A wider choice of good livelihoods for rural dwellers, wherever they want to work and in whatever sector, owing to improved infrastructure and education.

This broad-ranging vision acknowledges that most rural inhabitants, especially in the developing world, already have diversified livelihoods. Rural people often combine growing food on farms for their own consumption, or for the market, with small-scale processing of agricultural products, non-agricultural activities and seasonal or longer-term migration.[xv] These findings vary by region.[xvi] But even in areas where people rely more heavily on farming income, such as sub-Saharan Africa, earning income from non-agricultural activities is associated with higher living standards. Climate and geography influence these findings too. Being connected to urban areas and their dynamic markets makes a difference, although the precise influence of this factor varies in different places.

[xv] An estimated 60-70 percent of small farms, for example, mostly produce only to contribute to household consumption.[172]

[xvi] A comparison of African and non-African countries found that in the former 63 percent of households relied on farm-income as their main income source, against 33 percent for countries in other regions. Similarly non-agricultural wage income in SSA countries accounted for only eight percent of household income, against 21 percent in other regions.[173]

This vision also acknowledges that long-term trends are reshaping the context for rural development, presenting opportunities and challenges alike.

- Growing urban populations will need to be fed. Healthier diets everywhere will be rich in highly perishable items such as fresh fruit and vegetables. Urban agriculture will be able to meet some of that demand but producing food for growing urban populations creates market opportunities for all entrepreneurial farmers investing in local value chains.

- At the same time, rural communities will be tested as pressures on scarce resources intensify and the physical impact of climate change increases, while infrastructure and digital connectivity remain weak. Larger commercial interests are likely to increase their control at key points in the value chain, making smaller landholdings untenable.

- Many young people are expected to migrate from the countryside to towns and cities over coming decades.[174] This trend is likely to be marked in sub-Saharan Africa, where rural populations are growing and rural-urban migration has been low.[175] Sub-Saharan Africa as a whole is expected to experience half of projected global population growth to 2050.[176] While migration is an inevitable part of structural economic transformation, it could result in migrants suffering from poverty and vulnerability if they cannot be integrated into urban economies. These trends also imply that rural economies could be drained of the entrepreneurial talent needed to rejuvenate them and produce enough healthy food for growing urban economies.

Many of the opportunities that can support stronger rural livelihoods will come from the other critical transformations. Changes in diet can open up prospects for labour-intensive forms of fruit and vegetable growing, for example. Nature-based solutions can offer sources of income that reward farmers' and forest dwellers' contributions to the provision of public goods. And related support for knowledge-intensive practices can raise returns to rural labour. Moreover, diversified supply sources can boost productivity by reducing food loss and waste and strengthen livelihoods by creating local value chains linking cities and local, peri-urban production areas. Digitisation can help farmers make better production and market decisions, while increasing their productivity by enabling them to access sources of knowledge and financial and risk management products tailored to their circumstances.

Many of the elements needed to effect this transformation lie beyond the rural sphere. They include the substantial investment in education needed to make full use of the creative and productive potential of all. In addition, dense networks of secondary and tertiary towns can provide the services and markets that rural areas need, as long as they do not encroach on productive agricultural land. Above all, it is dynamic urban economies that offer the jobs and opportunities in which young talent can be most productive, relieving the pressure on land to provide livelihoods.

Goals and benefits

The benefits of stronger and more resilient rural livelihoods are hard to overestimate.

- **Environment.** They help to halt some of the practices that contribute most to the degradation of forests and soil, such as converting natural ecosystems to cropland, foraging for wood and burning biomass.
- **Health.** They help prevent nutrient deficiencies and stunting.
- **Inclusion.** They raise productivity in rural and urban areas, diversify income sources and potentially reduce food import dependency.
- **Food Security.** They support greater food security and address the growing inequalities found in many rural and urban areas.

The prize, evaluated as the economic benefits of job creation and health improvements for the rural poor, could be around $300 billion a year by 2030. This is a conservative estimate as it ignores many of the other broader welfare impacts of this transformation on, for example, the health, wellbeing and productive potential of children.

Priority actions

As highlighted above, success in this transition is closely related to what happens in all the others. In addition, delivering stronger rural livelihoods calls for emphasis on developing a cohort of young entrepreneurs and investing in a business environment in which they can create opportunities in farming and food processing, local value addition and new products and services. That environment will provide good living conditions and modern amenities to attract young people, strong property rights to make sure the shift towards more efficient agriculture is fair and inclusive, infrastructure to connect entrepreneurs to markets and livelihood options beyond rural areas, and risk management tools to help them take informed risks.

What can different actors do to promote this shift?

The conventional focus of rural policy has been on improving human capital for farming through expanding agricultural technical colleges and scaling extension services. Policymakers who want to revitalise rural communities and attract younger entrepreneurs need to look further. Much creativity and innovation have gone into strengthening skills through new delivery models, such as demonstration farms that aim to spread innovative practices.[177] PepsiCo has set up demonstration farms to work with local farmers to identify sustainable practices and share them through peer-to-peer learning. But much more such work is needed. Five priorities stand out. They are described below with special reference to sub-Saharan Africa, where the challenges to rural livelihoods are particularly stark, but are also broadly relevant across the world.

Support young people and entrepreneurs to access land, capital and other resources

Rapid population growth has increased demand for land, causing median farm sizes to decline. In response, most rural dwellers combine work on and off the farm but face limited opportunities to make a living. Would-be entrepreneurs have poor access to finance, face high costs of capital and are often perceived as risky. Although potentially just as productive, companies based in rural areas are likely to grow more slowly and generate fewer jobs than those in urban areas. Differences in the quality of infrastructure, access to credit and transportation costs all contribute to this disparity.[178] Young people may therefore find it challenging to create new opportunities for themselves.

Left: Dr Birhanu, Research Directorate Director at Gullele Botantical Gardens, Addis Ababa, Ethiopia. He got his degree in biology in Bahir Dar. He says, "Most people in Ethiopia are very passionate about plants. We aim to preserve, protect and grow plants to sell in the nurseries for the communities."

Evidence suggests that non-farm enterprises led by young people are often less productive and have lower potential than companies run by older adults.[179] These barriers are often even higher for women, who typically lead much smaller and less productive companies than average, given the sectors in which they operate and the small scale of their operations.[180]

Governments and private companies can partner in establishing incubation hubs that provide entrepreneurs with business training, market information, links to investors and a network for sharing knowledge.[xvii] One example is Generation Africa, which aims to strengthen the "agri-preneur" support ecosystem in Africa and unlock the potential of more of the region's young men and women. Governments can also introduce land reform and policies to support young people's access to land. These include opening up rental markets with adequate security of tenure to make it worthwhile for tenant farmers to invest in the land.[181]

The importance to rural reinvigoration of access to land, land rights and land tenure reform is hard to overstate, particularly in the face of a growing risk of large-scale land acquisitions by international and domestic parties.[182] As climate and population pressures make fertile land more valuable, people farming in fertile regions where property rights (both community and private) are not well-established will be particularly vulnerable. Between 2004 and 2009, large-scale land acquisitions in sub-Saharan Africa totalled nearly 2.5 million hectares.[183] Since 2000, international buyers have acquired over ten million hectares of agricultural land in Africa. In some situations, this can lead to a strengthening of productivity, create new and better jobs and improve rural livelihoods. Moreover, the farming sector in many countries needs investment and modernisation. At the same time, however, there is a genuine risk that transactions will take place at the expense of the local population, especially where governance of land title is weak. Land registries need to be developed, allowing major land deals to be monitored by civil society.

[xvii] On the use of networks to address some of the shortcomings of traditional extension services, see Agricultural Technology Adoption Initiative. 2016. Emerging Insights. Sharing Information to Support Smallholder Farmers in South Asia and Sub-Saharan Africa: Evidence from the Agricultural Technology Adoption Initiative. Available online at: https://www.atai-research.org/emerging-insights-sharing-information-to-support-smallholder-farmers/

Address market failures to enable farmers to secure a decent living

Without fair and relatively stable prices, farmers are trapped in poverty and unable to invest in their land. Cocoa farmers in Côte d'Ivoire and Ghana earn between $0.50 and $0.84 a day despite cumulatively producing 60 percent of cocoa for the $50 billion upstream part of the chocolate value chain. Similarly, as we have stated, farmers get less than 1 percent of the value of a cup of coffee sold in London (see Exhibit 11 in Chapter 2).[184] Increasing farmers' share of the final value in food value chains is critical to improving rural incomes. Improvements in farming productivity in such value chains will not make a difference to farmers' incomes unless farmers get a fairer share of the eventual profits.

Governments can try to reduce agri-businesses' power relative to smallholder farmers by having strong institutions in place to ensure price competition and prevent monopolist behaviour, and by enacting appropriate worker protection laws.[185] However, companies also need to show leadership, whether individually or through agreed (and independently monitored) collective bargaining processes. In every commodity (from shrimps to coffee to dairy) and most geographies, there are businesses that have committed to fair and long-term contracts with farmers. For example, the fruit company Blue Skies provides 4,000 farmers with living wages across four countries in sub-Saharan Africa.[186] But these smaller, more purpose-driven companies are the exception rather than the rule. Civil society can and should use its growing capacity to celebrate strong performers while also exposing abuses.

Increase rural infrastructure investment to drive productivity and reduce rural isolation

Rural roads connect people to jobs and markets. When new roads connect remote villages, opportunities for new micro-enterprises or for shifting into more productive crops open up. These effects tend to be more marked for individuals with fewer assets.[187] In addition, when a shock strikes – such as the Ethiopian droughts between 2012 and 2016 – households in villages connected to rural roads are more resilient as they have access to more options.[188]

Access to electricity allows farmers and agri-processers to run their machinery. Yet in rural areas in low-income countries, more than 70 percent of people do not have access to electricity, and those who do often suffer unpredictable power cuts. Small-scale, off-grid solutions are starting to make it possible for rural dwellers at least to charge their phones and electrify some farming tasks. One solar panel, for example, can help incubate up to 200 chicken eggs.[189] To meet larger power needs, mini-grids offer cheaper access than connection to a national grid, especially in sparsely populated areas (Box 37).[190] But despite their growing popularity, access remains spotty.

Finally, connection to broadband is an increasingly essential tool for improving market access for farmers, strengthening rural-urban connections and getting young people to stay in the countryside. As detailed in Critical Transition 8, the future of farming is increasingly digital. Fishers and forestry managers similarly need to be digitally connected to do their jobs, both to protect their resources and to produce more effectively and sustainably for the market. Yet the rural-urban digital divide remains wide, despite fairly high mobile phone penetration in rural areas. In Africa, internet use in rural areas is less than half the level in urban areas.[191]

BOX 37

The role of renewable energy mini-grids

One billion people have no access to power.[192] Communities that lack electricity typically use open fires or inefficient stoves for cooking, using raw biomass such as foraged wood for fuel, often at unsustainable rates. They are also unable to rely on cold storage to preserve crops and store medicine. Solar powered mini-grids could help close this gap, with far-reaching effects on rural agricultural economies.

Renewable energy mini-grids are standalone, decentralised electricity networks that can provide large peak power supply for rural communities, resolving some of the scale limitations of single-unit solar home systems. In Bisanti, Nigeria, 340 local households, some small businesses, a school and a health clinic are powered by a 126-panel solar mini-grid.[193] The International Energy Agency estimates that to achieve universal access to electricity by 2030, 255 million additional people will be connected via solar mini-grid.[194]

Renewable energy mini-grids are highly site specific: the local geography and community structure are critical to their successful operation. In locations where they work, they can make a huge difference, particularly by powering cold storage. Refrigeration reduces food loss and waste (especially of fresh produce) but it is difficult to power agricultural-scale produce from single home solar systems. Rural mini-grids can be powerful enough (typically a minimum of 3kW) to serve communities' cold storage needs and potentially make entire regional agricultural sectors more efficient.

Refrigeration powered by solar energy is transforming fishing in some areas. Around Lake Victoria, 460 million tonnes of fish are caught each year, but significant amounts are wasted. Now Kenyan solar mini-grid operators in Mwena and Kitobo are setting up solar-powered ice production facilities so fishers can preserve their catch and switch from being price-takers to price-setters.

Solar-powered fridges, such as the SunDazer, are being developed to provide portable cooling and are being used in strategically placed locations in Uganda, where 20 to 40 percent of all milk products are wasted because of the heat. The fridges are increasing farmers' incomes by 20 percent.[195]

Solar mini-grids can also provide enough power to make it worthwhile for farmers to invest in their own processing equipment, such as coffee pulping machines. Adding more value on farms improves incomes.[196] Improved rural electrification will also scale digitisation, enabling mobile access to real-time market prices for food.

The scale of rural infrastructure investment needed to connect rural areas through roads and digital investments, and to provide power, is small compared to its transformative potential: about $30-35 billion a year for sub-Saharan Africa. The returns on this investment would be even higher if it were linked to urban planning approaches that created economic multipliers for the surrounding countryside, as is happening in Ethiopia, Uganda and Rwanda. There is a good case for cross-sectoral international partnerships to mobilise the capital for this investment, support project development and drive the growth of higher-value agricultural corridors and sustainable special economic zones.

Right: Homestead Farmer, Tilahun Gelaye, a beneficiary of The Debre Yacob Watershed Learning Restoration Project in Bahir Dar, Ethiopia. He says, "The difference with being involved in the project is huge. Now we are living cleanly and safely. I feel such happiness. In the past there was hunger and starvation but now there is happiness in the area."

Increase opportunities for value-adding activities beyond primary production and processing

Unless they can engage in value-adding activities, people in rural economies are unable to capture a worthwhile share of food value chains. In many developing countries, this restriction applies beyond rural areas to the whole economy, increasing those countries' dependence on imports and reducing the value of their food exports. This challenge is exacerbated by international trading rules that often favour imports of unprocessed or semi-processed commodities from developing countries over more processed agricultural products.

Multinational and domestic companies can invest in value-adding activities in rural areas and developing countries to boost the value of local produce, generate employment and strengthen local supply chains. For example, by opening a vanilla extraction facility in Madagascar's Sava region, the flavours and fragrances producer Symrise has generated 200 jobs and improved local livelihoods.[197] Companies will only take this type of action, however, if national investment policies are sound and, in parallel, international trade rules do not discriminate against processed products. The policy reform agenda recommended in this report as well as the infrastructure investments described above can help to make this happen.

Provide risk management tools to strengthen resilience, including safety nets

Rural livelihoods are defined by risks, for instance the risk that rains might come at the wrong time and be more or less than specific crops need in non-irrigated areas. The ways in which rural households manage their risk exposure and cope with the consequences can be very costly, with long-term implications.[198] All the measures to strengthen rural livelihoods above will go some way to reducing rural people's exposure to some risks, with climate resilient infrastructure likely to play an increasing role. In addition, active risk management tools will remain key to strengthening rural livelihoods.

One such tool is affordable insurance. This can trigger significant investment in agricultural inputs because farmers know they are protected from the possible downsides of such investments. Equally important are well-designed safety net programmes. These can not only support households through short-term emergencies but also build more resilience into rural economies. For example, Ethiopia's Public Safety Net Programme provides millions of households with cash and food payments for building local infrastructure or protecting the environment.[199] This type of intervention works well in synergy with others: with the infrastructure in place, whether in the form of roads or natural capital, extension services have a much greater chance of boosting farmer incomes.

As the risks of weather-related events increase, investing in safety nets that can be easily scaled up is a priority – and public-private solutions can help. Interesting developments in this area include new types of public-private partnership involving international financial institutions or international NGOs.[200] Examples include the Turkish Catastrophe Insurance Pool, the Andhra Pradesh microinsurance programme and an index-based weather derivative for farmers facing drought in Malawi. By putting in place a predictable means of responding if disaster strikes, such interventions make low-income communities more resilient.

In summary, two forms of investment in the next generation of entrepreneurship for stronger rural livelihoods are essential. The first is investment in education, formal training and extension support services. What needs to be taught is well understood, and digitisation can complement high-touch teaching approaches. The need for action is urgent, but the action itself is relatively straightforward. The second essential investment is in the enabling environment for talent – infrastructure, market and resource access mechanisms, fairer land ownership patterns, value chains and safety nets. Here, it is equally well understood where investment is required. The need is equally urgent. But it will take a greater shift in leadership, mindset and resources. Rural communities have been left behind in the rush towards modernity. Supporting stronger livelihoods and the next generation of entrepreneurs is the key to transforming food and land use systems.

BOX 38

Building resilience for 30,000 family farms on Mount Elgon, Kenya[201]

Farming on Mount Elgon, Kenya, has been caught in a vicious cycle of environmental degradation, climate change and poverty. Deforestation, inefficient agricultural practices, uncontrolled grazing and soil erosion are directly damaging biodiversity and soil fertility. They also threaten the watershed and ecosystem of Lake Victoria as a huge quantity of soil sediments are carried into it by rivers. Degrading natural capital contributes to local farmers' very low crop yields and milk production. They also have no sustainable connections to markets.

To break the cycle, the Livelihoods Carbon Fund, an impact investment fund created by private companies, partnered with Vi Agroforestry NGO and Brookside Dairy, a Kenyan dairy processing company, to launch in 2016 the Livelihoods Mount project. This project trains farmers and links them efficiently to Brookside's supply chain. It is reaching out to 30,000 family farms spread over 35,000 hectares.

Farmers learn sustainable agricultural land management practices so they can adapt to the impacts of climate change, reduce their own greenhouse gas emissions and increase farm productivity and food production. Half the farmers trained are women. As Brookside Dairy has committed to buy all milk produced within the project over a period of ten years, farmers have the long-term income security they need to invest in their farms. The project should generate $200 million in the region's dairy sector over that period.

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