Food system transformations: Rwanda

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Rwanda’s Food System Transformation

Summary

Rwanda is making significant strides at developing a sustainable food system. Centering initiatives on its flagship development program, Vision 2020, the government has placed high priority on land tenure reforms, rural development, agricultural investment, and climate-smart and gender-sensitive approaches. Increasingly, the government is encouraging private sector involvement by reducing barriers to doing business, thus attracting foreign investors along the entire food value chain. Despite great progress, such as improving productivity of staple food production, hunger and undernutrition are big challenges that Rwanda still faces. Land tenure reforms, on the other hand, present a mixed picture—despite increasing food production, the government’s approach to land-use consolidation, regional crop specialization, and monocropping could prevent smallholders from using, managing and benefiting from their land.

Background

Following the 1994 genocide, Rwanda made substantial progress in advancing its economy and transforming its food system. Under the leadership of President Paul Kagame, the country has made considerable headway focusing on national development. The economy improved greatly between 1995 and 2013, as GDP grew at an average of 9 percent per year. The national poverty rate dropped from 57 percent in 2005/2006 to 45 percent in 2010/2011, and the poorest 40 percent of the population experienced more rapid income increase on average than the rest of the population (Diao 2014). At the same time, agriculture was recognized as key to the country’s transformation—Rwanda committed to the Comprehensive Africa Agriculture Development Programme (CAADP) in 2007. In 2010, the country met the CAADP target of allocating 10 percent of government budget to agriculture, with 7 percent annual agricultural growth that same year (ASTI 2011).

A vital component to the transformation of Rwanda’s food system was the government’s long-term national strategy launched in 2000—Vision 2020. The strategy focuses on advancing Rwanda to a knowledge-based economy and rising to middle income status by 2020. This includes transforming Rwandan agriculture and improving smallholder profitability through a market-oriented approach. Both Vision 2020 and the 2002 Poverty Reduction Strategy identified land management as a priority. In 2011, the National Strategy for Climate Change and Low Carbon Development was introduced to complement Vision 2020. The strategy emphasized sustainable, climate-smart, and gender-sensitive approaches for a low-carbon economy by 2050. Public and private investments and international collaborations have increased in support of this strategy. Through the Crop Intensification Program by the Ministry of Agriculture and Animal Resource (MINAGRI), the government emphasized comprehensive

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1 African governments in 2003 pledged in Maputo to allocate at least 10 percent of their national budgets to agriculture to boost sectoral growth by 6 percent per annum under the CAADP agenda. In 2014, African leaders in Malabo committed to enhancing investment finance in agriculture, in addition to other commitments. See Maputo Declaration and Malabo Declaration.
land regularization and land use consolidation. The Program features regional crop specialization and crop intensification centered on priority monocrops. Subsidies for seed and fertilizer intended for priority crops were put in place, in addition to irrigation, land improvement, and soil and water conservation practices. While the country is heavily dependent on international aid, government reforms to promote private sector participation have made Rwanda one of the best places to do business in Africa.

To signal their commitment to improving nutrition, Rwanda committed to the Scaling Up Nutrition (SUN) Movement in 2011, and launched a consumer awareness campaign toward tackling the country’s high prevalence of hunger and undernutrition.

Questions remain, however, about the social costs of Rwanda’s approach to promoting smallholder farming in the context of government-led land use consolidation, regional crop specialization, and crop intensification centered on priority monocropping. Although in recent years there have been impressive gains in agriculture yields and food security indicators, it is difficult to ascertain whether this is attributable to positive land tenure reforms, heavy agricultural subsidies for monoculture production, or what some sources report as government coercion of producers (to form cooperatives, consolidate fields and produce crops selected by government planners).

What: What did the country do to transform their food systems?

Productivity: As a net food importer, Rwandan agriculture is predominantly subsistence level, but cash crop production, such as coffee and tea, is growing. Tea yields, for example, doubled from 1995 to 2013. Food crop yields escalated—roots and tubers, for instance, doubled in yield in the same time period. Similarly, plantain, a main component in the Rwandan diet, increased in yield by 35 percent from 1995 to 2013 (FAOSTAT 2015). Almost three quarters of the population were employed in agriculture and labor productivity improved from 1980 to 2010, with an annual average growth rate of 2.7 percent (Benin et al. 2011).

Nutrition: Although hunger and undernutrition are still big challenges in Rwanda, the prevalence of hunger decreased from 56 to 32 percent from 1990-92 to 2014-16 (FAO 2015). In the first half of the 1990s, 24 percent of children under five were underweight; by 2005 to 2011, the figure dropped to 18 percent (FAOSTAT 2013). The government aims to improve nutrition through multi-sectoral approaches under the Ministry of Health’s National Multi-sectoral Strategy to Eliminate Malnutrition (2010–2013) and the Joint Action Plan in the Office of the President (SUN 2015). In 2012, the government released iron-rich bean varieties bred by the Rwandan Agriculture Board and the International Center for Tropical Agriculture, distributed by IFPRI’s HarvestPlus. In 2014, an education campaign was launched to promote better nutrition and health for more diversified diets—Rwandan musicians released a music video encouraging the consumption of high-iron beans (HarvestPlus 2014).

Resilience: Rwanda is susceptible to floods and droughts. Disaster risk reduction has taken top priority in the Economic Development and Poverty Reduction Strategy, cutting across all ministries (UNDP 2012). Several weather-indexed insurance schemes exist to protect farmers
against extreme weather events. The Rwandan Ministry of Agriculture and Rural Development, together with assistance from the governments of Japan and the Netherlands, provides weather-indexed insurance for smallholder farmers (Microensure 2015). In 2013, insurance from the Agriculture and Climate Risk Enterprise program, funded by the World Bank, protected about 185,000 farmers against drought (Artemis 2015).

**Climate-smart approaches and reduced environmental footprint:** In 2011, the government released a strategic document, Green Growth and Climate Resilience: National Strategy for Climate Change and Low Carbon Development, to develop a low-carbon economy and build resilience through climate-sensitive approaches. Pathways to reshape agriculture through this new strategy include expanding crop varieties, implementing sustainable intensification methods and techniques, as well as educating women and girls (Government of Rwanda 2011). The government of Rwanda is also working with the International Fund for Agricultural Development (IFAD) on the Climate Resilient Post-harvest and Agribusiness Support Project. The initiative will ensure access to skills, knowledge and infrastructure for better post-harvest handling in response to climate risks at the post-production stage (UNCC 2014). Started in 2014, the Project is targeted to over 32,000 households, representing about 2 percent of all rural households in Rwanda (IFAD 2014).

**Profitability:** Rwanda’s agricultural value of production more than tripled from 1995 to 2013. MINAGRI together with the Rwanda Development Board introduced the “Food Basket” approach in 2011 to improve smallholder profitability, accelerate growth in the agriculture sector and promote public-private partnerships. Context-specific agricultural investment opportunities in six regional food baskets were identified (MINAGRI 2011). In addition, agricultural co-operatives have been set up to improve smallholder profitability by providing technical assistance in post-harvest handling, equipment and storage facilities with support from, for example, the government of Canada, and the World Food Programme. Additionally, new technologies are encouraging the growth of business in agriculture, such as a new smart phone technology that assists fertilizer traders to record supplies and sales from all customers (New Times 2014).

**Finance:** Rwandan banks have traditionally underperformed on serving the agriculture sector. In 2008, a network of over 100 local credit cooperatives was converted into one, single commercial bank “with cooperative roots”, attaining a single banking license and connecting with Netherlands-based Rabobank as strategic partner. While this bank, its commercial peers, as well as the Development Bank of Rwanda are in the process of implementing supply chain finance solutions for different crops across the country, the sector as a whole is still underserved. By regulation, however, the government of Rwanda requires licensed banks to install an agricultural lending unit to increase access to finance for agricultural entrepreneurs and farmers (IFC 2012; Rabobank 2015).

**Transparency:** According to Transparency International, Rwanda is among the least corrupt countries in Africa for 2013 and 2014 (Transparency International 2014), and the country has been identified as one of the best places to do business in Africa (World Bank 2013). In agriculture, this has created business opportunities along the value chain. At the input phase,
the government encourages investment in the fertilizer business (Rwanda Development Board n.d.). In processing, Japanese investors, for example, have expressed interest in producing high-value Rwandan products (Ministry of Agriculture 2014).

Land tenure: The 2004 National Land Policy (NLP), the 2005 Organic Land Law Determining the Use and Management of Land (Land Law), and the 2007 National Land Tenure Regularization Program (NLTRP) have together improved land tenure security in many respects, though the NLP advocates a worrisome restriction on transfers of parcels smaller than one hectare. The NLTRP formalized customary rights and issued fully transferable, long-term leases (for 99 years in rural areas), in the process registering over 10 million parcels and issuing about 8 million leases (Huggins 2014).

While the Land Law and NLTRP have been touted as successful elements of the agricultural reform approach (Huggins 2014), the strategy is much broader. Under Vision 2020 and the Poverty Reduction Strategic Plan framework, the government seeks to transform the agricultural sector into an engine for economic growth through modernization and commercialization (Ansom et al. 2010). The 2004 Strategic Plan for Agricultural Transformation creates production system incentives to promote modernization, market orientation, crop intensification, and private sector involvement. Regional crop specialization policies also aim to improve market linkages (Huggins 2014).

MINAGRI’s Crop Intensification Program (CIP), launched in 2007, prioritizes land use consolidation and regional crop specialization. The program determines land use change—from intercropping of diverse crops to monocropping of eight priority crops (Huggins 2014). In targeted land use consolidation areas, the CIP has farmers of adjacent plots grow a single crop under a unified schedule. Such farmers benefit from CIP’s heavy promotion of subsidized seeds and chemical fertilizers, in addition to extension and technical services (Huggins 2014). At the district- and household-level, efforts are geared to meet targets (such as hectares under priority crop production) that appear in each district’s annual performance contract (imihigo), which is signed by the local government and households (Kathiresan 2012). These contracts push parties to work toward national production goals (Huggins 2014).

The Rwanda experience in land reform presents a mixed picture. Although reforms have broadly improved land tenure security with positive links to food security, in some instances the Government of Rwanda’s increasing regulation over certain rights to land—especially through the CIP’s implementation of land use consolidation—may be compromising farmers’ rights to use, benefit from, and manage their land. In some reports, complying with the CIP has forced some small farmers into production cooperatives or forced them to produce monocultures (such as maize and soybean) instead of subsistence crops (Milz 2011). Additionally, it has been noted that while CIP has favored state-initiated cooperatives leasing marshland for monocrop cultivation, it has provided little aid to the majority of hillside peasants who struggle with land degradation and fragmentation (Milz 2011). The government of Rwanda has also noted instances where local authorities have uprooted kitchen gardens to enforce consolidated cultivation (Kathiresan 2012). Still others report that projects supporting the Strategic Plan for Agricultural Transformation in other areas promote kitchen gardens alongside monocropping to
offset risks and ensure food security (IFAD 2011), and cooperative membership and production is concluded to be voluntary (Verhofstadt and Maertens 2013).

**Who: The roles played by government, business (MNCs and domestic), civil society, research institutions – including extension and financial services, multi-stakeholder forums, farmers and donors**

Following the genocide, the government prioritized economic development and devised strategic reforms for Rwanda’s future. Significantly, it prioritized land reform, rural development, and agricultural transformation. In particular, the Ministry of Agriculture and Animal Resources (MINAGRI) and the Rwanda Development Authority (RADA) have played a principal role in their management of agricultural land use consolidation and regional crop specialization as a means to improve land management and to increase productivity (Bledsoe et al. 2007).

The Rwandan government has also been keen on creating a conducive environment for business with assistance from the international community. For example, the World Bank Group’s Rwanda Investment Climate Reform Program provided support to the government’s legal, regulatory and institutional reforms, removing unnecessary barriers to doing business. Further, Rwanda’s Special Economic Zones have attracted investors, particularly in the agriculture sector by offering regulatory incentives and the necessary infrastructure for agro-processing, including roads, energy, water and ICTs. These investments have significant value—from 2000 and 2013, the value of registered private investments in Rwandan agriculture totaled $512 million across 184 projects (Grow Africa 2014).

Public-private partnerships have been important in boosting the supply chain for nutrition. Under the Ministry of Health’s Nutrition Technical Working Group, industries and consumer associations have established the National Food Fortification Alliance. The alliance is a platform for decision making on food fortification, and has developed national fortification standards that have been harmonized with the East African community.

Donor assistance has been instrumental to many of the country’s reforms and progress. The World Bank and United Nations, together with the governments of Japan, United Kingdom, United States, and Sweden, for example, provided critical funding in education, nutrition, agriculture, and rural development. In 2011, 50 percent of national budget came from donor funding (Cooke 2011). In 2012, however, donor assistance from countries such as the United Kingdom, Sweden and Germany was frozen due to scathing allegations against the government regarding the genocide, which could lead to economic uncertainty in the future.

**How: What were the key ingredients and incentives?**

Strong public investment has been a major influence on Rwanda’s food system development. The government facilitated access to inputs, increase in livestock herds and social-capital building through cooperative development support, and encouraged off-farm employment
where appropriate, which had critical roles in sustaining agricultural growth (IFAD 2014). Land tenure reforms and strategic support of agricultural production and marketing cooperatives have helped enhance land tenure security and agricultural productivity. Additionally, reducing the gender gap by allowing women to hold positions of authority in all sectors, and educating women and girls has been recognized as a key pathway to improve the agriculture sector.

Long-term development is another approach that contributed to Rwanda’s growth. The second Economic Development and Poverty Reduction Strategy is a medium-term strategy that centers on reducing poverty and advancing growth. The government instilled a culture of delivery and accountability for its ministers and managers, including an annual “delivery contract.” This approach has significant impact on the performance of government programs and project implementation.

**What work remains: Remaining challenges and opportunities**

Rwanda has made impressive strides, yet the country still has much to do, particularly in improving its food system for better nutrition. Prevalence of child stunting is high, affecting 44 percent of children under age 5 in 2010. Further, nutritional disparities exist across regions. Stunting rates are over 60 percent in the northern and western regions that border Lake Kivu and the Congo Nile Crest (WFP 2015). The value of foods to meet nutritional needs is greatly influenced by access to clean water and sanitation. Ensuring improved access to water, and better sanitation and hygiene practices (WASH) is an area that requires attention since infectious diseases alter the ability to absorb and utilize nutrients. Government data suggests that 72 percent of the population has access to water and 45 percent to adequate sanitation (Water Supply and Sanitation in Rwanda 2011).

Along with better WASH infrastructure, expanding social safety net programs, which currently focus on reducing poverty, as well as other nutrition-sensitive interventions could also offer big improvements to the country’s nutrition and health, such as has been observed in India (Spears and Haddad 2015). Adopting better-targeted, productive, and cross-sectoral social safety nets that combine long-term tools to enhance productivity with short-term social safety support could help smallholders increase profitability (Berhane et al. 2014). Additionally, innovations in smallholder-friendly financial services and access to finance, such as cell-phone based payments, need to be scaled up (Hill and Torero 2009).

Several opportunities exist to improve the country’s land tenure laws that could then improve agricultural production, and its overall food system. For example, countrywide research is needed to understand whether Rwanda’s land tenure and agriculture reform approach—and specifically which parts—is a success not only in terms of recent agricultural productivity gains but also long term agriculture growth, land tenure security and food security, and what the social costs of the reforms are. More inclusive land rights should be another consideration, and participation in production cooperatives should be voluntary. Local authorities must be trained and incentivized to implement land use consolidation in ways that respect key rights in farmers’ property rights bundle—including right to use, benefit and manage. Farmers should be able to transfer small plots and have the freedom to choose what crops to grow. The CIP provides
immense support to collectives producing certain monocrops. However, evaluating how widely accessible these benefits are is imperative. Broad-based gains in agricultural productivity, economic growth, and food security will require that all small farmers, not just select farmers producing favored crops, can access inputs, extension services, and other resources.

While Rwanda has set the foundation for much of its capacity strengthening processes, more advances could accelerate progress in policy-making. Investments in agricultural R&D, such as higher education in agricultural studies, are still lacking in Rwandan universities and are highly dependent on donor and development bank funding (ASTI 2011). A stable political environment can reopen sources of donor assistance and encourage long-term development.

Finally, despite the ease of doing business in the country, the role of the private sector could be enhanced through improved infrastructure. Better roads and electricity supply, for example, could promote more formal private sector participation (World Bank 2014).