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Improving Rural Livelihoods and Food Security

Lessons from the Africa regional Conference

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Acronyms

BCV	Be the Change Volunteer
BDS	Business Development Services
C.A.F.E	Coffee and Farmer Equity
CRS	Catholic Relief Services
DFID	UK Department for International Development
FEWSNET	Famine Early Warning System Network
FFS	Farmer Field School
FSP	Financial Service Provider
FSS	Financially Self-Sufficient
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GIZ	Gesellschaft fur Internationale Zusammenarbeit
GROW	Greater Rural Opportunities for Women
IFC	International Finance Corporation
KDSCP	Kenya Dairy Sector Competitive Program
MDGs	Millennium Development Goals
MEDA	Mennonite Economic Development Associates
MFI	Micro Finance Institution
MFW4A	Making Finance Work For Africa
MINAGRI	Ministry of Agriculture and Animal Resources, Rwanda
NGO	Non-Governmental Organization
PHHS	Post-Harvest Handling and Storage
PPP	Public-Private Partnership
PSP	Private Service Provider
RAB	Rwanda Agriculture Board
RDB	Rwanda Development Board
RTC	Rwanda Trading Company
SILC	Savings and Internal Lending Community
SME	Small and Medium Enterprise
USAID	United States Agency of International Development
VSO	Voluntary Services Overseas

Foreword

Dear Fellow Nutcrackers,

An initiative of the Global Communities' Integrated Improved Livelihoods Program, commonly known as Ejo Heza, (funded by USAID and Feed the Future), this was the first Cracking the Nut conference to take place in Africa. Held in Kigali, Rwanda, the three-day learning event was the first time we incorporated field visits into the agenda, which provided live examples of conference themes. The conference was the largest Cracking the Nut event to date, convening over 400 participants from 40 countries including a diverse set of representatives from top food companies, financial institutions, investors, governments, donors and international development organizations.

While many challenges surrounding rural livelihoods and food security exist all over the world, some of the toughest nuts to crack lie in Africa. The conference served as an opportunity for Africans to voice their specific issues and perspectives, while integrating local and international expertise. Africa is currently the second fastest growing region in the world in terms of population and boasts 16 of the 29 economies projected to grow the fastest from 2012-2014.[1] The continent has made great strides in economic development and poverty reduction. As we saw at the conference, however, increased investment in value chains, transfer of technology and creative partnerships between the private and public sector are necessary to sustain the wave of progress.

The total world population is expected to expand to 9 billion by 2050 and to meet the food demand, production will need to nearly double in developing countries. According to the International Fund for Agricultural Development, GDP growth generated by agriculture is up to four times more effective in reducing poverty than growth generated by other sectors. [2] Given this situation, the focus of the conference, Improving Rural Livelihoods and Food Security, was relevant and timely. While many challenges persist, conference participants demonstrated an enthusiasm and resoluteness to overcome these difficulties. A shining example of this is the host country of Rwanda, which was highlighted as the fastest African reformer in the World Bank's Doing Business Report 2014. Realizing that smallholder farmers are the backbone of the country's agricultural sector, the government has implemented many programs, including land consolidation, prioritization of crops and access to inputs and extension services, to build smallholder capacity. The government has laid the groundwork and is now inviting private sector players to invest and develop sustainable supply chains. As the Head of the Department for International Development (DFID) in Rwanda, Mike Hammond, proclaimed at the closing of the conference "Africa is open for business!" Given the success of this event, I would like assert that "Rwanda is definitely open for business" and well positioned to become a dynamic, food secure country by 2020.

Sincerely,

Anita Campion,
President, AZMJ

[1] UNECA/AU/AfDB/UNDP, *Assessing Progress in Africa Toward the Millennium Development Goal*, 2013
[2] IFAD, Food Security Facts and Figures, http://www.ifad.org/hfs/facts.htm

I. Executive Summary

The learning event, Cracking the Nut Africa: Improving Rural Livelihoods and Food Security, took place January 13-15, 2014 in Kigali, Rwanda, from which the following lessons learned were extracted from the five conference themes highlighted below.

Ensuring the Proper Feeding of a Growing Population

- **Food security is not just about increasing production.** It is also about improving livelihoods, income, nutrition and resiliency. Holistic approaches are needed, such as Feed the Future's USAID/Ethiopia's Agricultural Growth Program – Agribusiness and Market Development in Ethiopia, through which ACDI/VOCA is building organizational capacity, forging market linkages and facilitating access to finance.

- **We need to aim higher than just restoring the food insecure to pre-crisis levels.** Global Communities' USAID-funded Protecting and Restoring Economic Sustainability to Ensure Reduced Vulnerability Plus (PRESERV+) Project worked on the whole continuum from relief to recovery to improve long-term food security in counties of eastern Kenya that are affected by cyclical droughts.

- **The provision of timely, reliable and regular early warning information can help decision makers to put in place interventions that can reduce the risks of food insecurity for vulnerable groups.** USAID's Famine Early Warning System Network (FEWSNET) program was designed to support the assessment of shocks that threaten food security and livelihoods on a global level, and to encourage appropriate decision making and responses, which was used to predict the impacts of famine in Somalia in 2011.

- **Food security frameworks should be developed in partnership with multiple country stakeholders, including large traders, farmer associations, governments and donors.** Making Finance Work for Africa (MFW4A) highlighted the Kampala Principles, which have been developed to assist countries unlocking finance for agricultural development. By applying these principles and working cooperatively across borders, African food security could greatly improve.

Reducing Costs & Risks of Serving Rural Clients

- **Farmers are willing to pay for business development services if they contribute to the bottom line.** In developing the dairy sector in Kenya, Land O'Lakes was able to build capacity and catalyze growth of market-driven BDS by highlighting and demonstrating to farmers how it could help improve yields and incomes.

- **Accurate, timely and "smart" information communication technology can reduce risks for all actors in the value chain, as well as financiers.** For example, SMS Bookkeeping is a mobile accounting and stock tracking system, which TechnoServe used to reduce risks in the coffee value chain.

- **Agricultural franchises can unlock value and reduce the risks and costs of serving smallholders.** Babban Gona, for example, is an agricultural franchise that provides loan services that bundle the cost of training, inputs, insurance, mechanization and post-harvest services to farmer groups in Nigeria.

- **Smart business models can improve efficiency and reduce costs of financial services**. Business & Finance Consulting proposed Alexander Osterwalder's Business Model Generation Canvas as a useful tool to structure and prioritize the measures needed to improve microfinance service quality and operational efficiency, so that they can more cost effectively serve rural areas.

Preparing for Sustainability of Future Livelihoods

- **Women farmers need secure land tenure and access to information, productive resources, and market opportunities to increase production, income and food security.** By securing land for female farmers in Mali, CARE has helped women's groups to test new agricultural techniques, such as composting, which resulted in lower input costs and increased yields per hectare.

- **Scaling and sustaining interventions can be achieved through the transfer of skills to locals, especially youth.** USAID/Rwanda's Ejo Heza program employed its "Be the Change Volunteer" model to transfer the necessary knowledge, skills and attitudes to volunteers who then trained community groups on literacy, financial, agricultural, health and nutrition services. Fundación Paraguaya's Financially Self-Sufficient school model is designed to cover operating costs and build youth's capacity through student-run businesses, now being implemented in Tanzania.

- **Creative partnerships can help to facilitate access to finance for young entrepreneurs to small and medium enterprises.** The MasterCard Foundation, for example, has partnered with MEDA in Morocco and Egypt and with Freedom from Hunger in Mali and Ecuador along with local NGOs to increase financial inclusion for youth, while also improving their financial education and entrepreneurial skills.

- **Regardless of the target population, there should be an exit strategy for project supported livelihood assistance, including fee-for-service options provided by local actors.** CRS has developed a sustainable approach to transitioning communities off project-supported technical assistance by pioneering a fee-for-service model that uses Private Service Providers to provide ongoing support to its Savings and Internal Lending Communities, in a way that allows demand to gradually set the price for those services.

Enticing Investors to Key Agricultural Value Chains

- **Governments need to attract investors with a customizable set of incentives as well as project level support.** Monitor Deloitte encourages governments to consider incentives, such as land preparation and acquisition support, to attract private sector investment to agriculture, as well as ongoing support, such as agricultural extension services to reinforce the investment.

- **The right investor is just as important as the right project when matchmaking in developing markets.** Given the risk profile of most rural and agricultural investments in Africa, the most appropriate investors are often local or impact investors (i.e. has a country-specific or social motivation).

- **Investing in smallholder livelihoods can dramatically increase the sustainability of supply chains.** Mondelēz International has invested US$400 million in its Cocoa Life program in Ghana to ensure the sustainability of its cocoa supply chain, which also benefits 200,000 smallholder cocoa farmers.

- **Preparing smallholders for private sector investment is as important as preparing investors to invest in smallholder production.** In Tanzania, Aga Khan Foundation's Coastal Rural Support Programme prepares smallholders in the rice and sesame value chains to create aggregation points for production, building awareness and incentives to meet market standards and facilitate private sector investment.

Facilitating Positive Behavioral Changes

- **It is important to listen and understand the needs of the target audience before attempting to change behaviors.** To gain trust of smallholders, Starbucks' Farmer Support Center organizes focal groups of coffee farmers to understand their needs and concerns before training on its practice standards.

- **Youth are receptive to trying new behaviors and technologies.** To transform subsistence farming into sustainable farming, Amiran offers drip irrigation kits to youth groups in Kenya at a discount in exchange for their assistance in demonstrating the technology and its value to others.

- **Gender awareness and integration should be reinforced at all levels of the community.** Danya International encourages female participation in its development projects by knowing the target group and "influencers," including husbands, family and community leaders and adapting messages accordingly.

- **Behavior change is not only needed in terms of smallholder farmers. All businesses need to operate as "social enterprises," keeping in mind the impact on local people, communities and the environment.** VegPro Group, one of the largest African horticultural exporters, offers a good example of a business that has been willing to make a long-term commitment to working with smallholders, helping them to meet changing European standards.

- **Farmers need to understand the value of making "investments" in their business.** AZMJ has helped farmers in Kenya understand why Netafim's drip irrigation technology is a better investment over time than some of the cheaper alternatives, which tend to get blocked and stop working after a couple years. AZMJ has also worked with K-Rep Bank and Family Bank to adapt its financial products to make investing in high quality drip irrigation financially affordable.

Moving Forward

The conference also highlighted the need for additional work, thought and discussion to:

- Prepare for the impacts of climate change on rural and agricultural development;
- Facilitate large scale investments in infrastructure; and
- Identify cost-effective approaches to monitoring and evaluation.

These will likely be some of the topics integrated into the agenda for Cracking the Nut 2015.

II. Introduction

Sir Francis Bacon claimed that the most important advances are often the least predictable, "lying out of the path of imagination." By bringing together important stakeholders from public and private sectors, as well as civil society, Cracking the Nut conferences aim to shine the light on paths not yet explored or imagined. Rwanda was the ideal venue for the first Cracking the Nut Africa, as its recent recognition as one of the top global reformers according to the World Bank's "Doing Business 2014," demonstrates that the seemingly "impossible" can become possible with the right people and commitment to a cause.[3] Cracking the Nut Africa made real progress in highlighting some of the more promising approaches for improving rural livelihoods and food security, which are summarized in this publication.

Mike de Klerk, representing Making Finance Work for Africa (MFW4A), showcased the Kampala Principles, 11 principles that suggest the actions most urgently required for fostering the effective provision of financial services to the agricultural sector in Africa (see Box 2.1, also highlighted in the 2011 Cracking the Nut publication). The Kampala Principles were adopted by leading practitioners from the finance and agriculture sectors, policy-makers, researchers, the media and development partners from all over Africa as well as other regions during the 2011 MFW4A Zipping Finance and Farming in Africa conference.

Box 2.1: Kampala Principles Specify Need to:

- improve agricultural finance policy coordination
- strengthen farmer organization
- cluster small farmers
- facilitate innovative finance
- increase public spending on infrastructure
- support on-farm productivity-enhancing investments
- improve access to long term capital
- encourage commercialization of agriculture
- advance financial literacy
- drive research, dissemination, training
- improve information flows

Based on the principles, the keynote presentation offered insights on how governments, donors, investors and private sector representatives can support rural and agricultural market development, relevant to the five conference themes, as follows:

1. **Ensuring Proper Feeding of a Growing Population**. African countries have made good progress on many Millennium Development Goals (MDGs), especially related to education, health and gender equality. Average incomes have been increasing and malnutrition has been decreasing, however, malnutrition remains the highest in the world in Africa (with 26.8% of sub-Saharan Africans malnourished as of 2012)[4]. While Africa has made steady progress on improving labor productivity (above the world average since 2000), agricultural productivity remains low. The majority of non-commercial smallholders produce staple crops for their family and community's subsistence needs, for which formal finance is not available. As a result, non-commercial farmers rely heavily on informal savings and credit mechanisms. In South Africa, for example, SaveAct is a non-profit organization that supports and promotes the creation of savings and

[3] It now takes only 6 hours to register a business in Rwanda per "Doing Business 2014," World Bank.
[4] UNECA/AU/AfDB/UNDP, *Assessing Progress in Africa Toward the Millennium Development Goals*, 2013.

credit groups to build sustainable livelihoods.[5] In just six years, SaveAct has supported 22,000 members (mainly rural women) through their participation in 1,100 savings and credit groups. As of the end of 2013, their combined annual savings had reached approximately US$2 million, with about US$1.2 million mobilized into annual loans for members with a repayment rate of around 99%. To ensure transparency at the end of each year, all savings and accumulated interest are paid out, part of which is used for agricultural inputs. Based on SaveAct's demonstrated assistance to reduce poverty and food insecurity, Barclays Bank recently provided US$1 million to support SaveAct's expansion. On a policy level, donors and governments should support savings mobilization to move the rural poor toward financial inclusion. Stabilizing household cash flow can be a powerful tool in empowering the poor to ensure their own food security.

2. **Reducing Costs & Risks of Serving Rural Clients**. The risks and costs of serving rural clients can be greatly reduced when farmers are involved in tight value chains (i.e. well-structured and/or vertically integrated). Agricultural commodities for export (e.g. cocoa or cotton) or domestic processing and consumption (e.g. oil) are more likely to be within tighter value chains, while staple crops are more likely to be associated with loose value chains (less structured and integrated). For example, GIZ has developed and implemented Farmer Business Schools for producers operating in the cocoa value chain in four African countries in the past four years. The objective is to increase producer incomes, primarily from food crops. Training contents comprise planning, calibration, nutrition, production/marketing economics of Good Agricultural Practice (GAP) of cocoa and two food crops, financial literacy, benefits of organization for market access and re-investment. GIZ has supported 20 partner organizations to provide the one week long off-farm courses to over 180,000 producers (26% women). By working cost-effectively through the cocoa value chain, GIZ has helped farmers to increase yields and income from food crops and investments in cocoa. Evaluations confirm the cost effectiveness of the Farmer Business Schools, with the average cost of producer trained between 18 and 20 EUR. Identified results include:

   - Informed investment in quality inputs for cocoa and food crops based on economics of GAP translating into yield increases of 33% to 50% and income increases from food crops between 600 and 830 EUR per Household (baseline 50 to 150 EUR);
   - Bank savings established by 60 to 65% of trained farmers to get access to credit, thus helping producers to establish a favorable financial profile and become bankable;
   - Group sales and procurement practiced by 36% of trained groups; and
   - Registration of producer organizations after training (45% of trained groups).

   Trained farmers use the additional income to improve their living conditions (housing 40%, ICT devices 46%), to invest in replanting of cocoa (38%), to pay for their children's education (85%) or "simply" to improve their families' nutrition (85%).

   Burkina Faso presents an interesting example of how governments can support loose value chains via cost-effective integration and access to extension and financial services. By coordinating with cotton processors, the Ministry of Commerce, acting through the cotton producers' association, was able to facilitate the integration of small cereal farmers into the cotton industry. These farmers benefited from 20% of total bank credit in Burkina, which was advanced to the three main cotton processors, with almost no defaults. By linking extension services to cotton credit, the government was also able to encourage increased investment in cereals, which are important for rural food security.

[5] For more information on SaveAct, visit: www.saveact.org.za

3. **Preparing for Sustainability of Future Livelihoods**. Globalization is bringing new business and employment opportunities linked to changing market demands, but it also means increased vulnerability. For example, small farmers are vulnerable to 'international land grabs' and competition from developed countries' agricultural subsidies. African low income households are particularly vulnerable to agricultural price volatility, especially when fears of food insecurity cause governments to close their borders to trade of staple commodities. By working out regional trade agreements and developing effective commodity exchanges, governments can help mitigate the most extreme negative impacts of commodity price volatility on the poor. In 2008, for example, the Ethiopian government supported a public-private partnership to create a commodity exchange to be operated by the private sector. As a result, the commodity exchange has improved trading transparency and market information flows for coffee, oil seeds and pulses in Ethiopia. As of the end of 2011, Ethiopia's commodity exchange served 7,800 clients (including cooperatives representing 2.4 million smallholders), as well as 256,000 mobile subscribers (70% rural), who benefited from instant messaging on pricing and trade volumes.

4. **Enticing Investors to Key Agricultural Value Chains**. Donors and governments can play an important role in reducing barriers to entry for large agribusiness investors. Most large offshore investors look for reasonable political and macroeconomic stability as a starting point. Donors and governments can help to ensure an investment-friendly enabling environment, including acceptable governance, ability to enforce contracts and ease of doing business. In addition, short-term incentives can be offered to encourage long-term investments that will create jobs and generate tax revenues that will pay off in the future. Governments can entice large commercial investors in agricultural value chains by offering access to land, tax incentives, as well as support for infrastructure and extension services. Civil society can also play an important role in stimulating investments and promoting growth of agriculture and agribusinesses. For example, the Private Agricultural Sector Support (PASS) Trust in Tanzania is a non-profit organization that was set up as an initiative to support farmers and other entrepreneurs to access finance through local banks and business development services to improve their financial and business prospects. Established in 2000 as a public private initiative, PASS Trust is now financially self-sufficient (charging fees for services) and has provided support to more than 35,000 farmers in 600 enterprises and has facilitated more than US$60 million of investment in agricultural enterprises (as of 2012).

5. **Facilitating Positive Behavioral Changes.** Working collaboratively with local communities can help facilitate behavioral changes demanded by markets, especially if the change can be linked to improved incomes for smallholders and the rural poor. For example, Frigoken, Kenya's second largest fruit and vegetable exporter, found that working with local communities and using peer pressure was more effective in reducing side selling by its contracted smallholders than going through the Kenyan court system. In addition, by helping farmers understand the importance and value of meeting quality standards, Frigoken was able to help horticultural farmers increase income by selling through higher value export markets.

III. Proper Feeding of a Growing Population

As the population grows to 9 billion by 2050, ensuring proper feeding requires much more than just increasing agricultural production. Food security implies that food is available, accessible and well utilized (properly stored, prepared, including a nutritious and balanced diet to promote health). Up until recently, the emphasis was especially on making sure that pregnant and nursing mothers were eating healthy, as well as their children in the first two years of life. However, recent studies indicate that women's health and diet just before conception and during the first few days of fetal development was as important, if not more important than during their pregnancy.[6] This implies that we need to make more efforts to keep women healthy ALL THE TIME! In other words, we need tools to educate populations of the value in keeping women healthy at all stages of their lives. "Early dietary changes or early nutritional changes in the mom can effect epigenetic modifications," explains Dr. Kelle Moley of the University School of Medicine in St. Louis "These are persistent in offspring and can be passed down across generations."[7]

To properly feed the global masses, we need to recognize the food security is not just about increasing production, but also improving household incomes and diets. Furthermore, we need to think in broader terms and think beyond just dealing with the current crisis at hand. In particular, we need to develop early warning systems and food security frameworks that reduce vulnerability to commodity price shocks and cost-effectively mitigate the long-term negative implications that even short term food insecurity can cause on people, businesses and communities. This chapter highlights some of the lessons and latest approaches used to address food insecurity in developing countries.

Lesson 1: Food security is not just about increasing production, as one can triple production and still be poor, with animals dying due to aflatoxins and food losses due to inadequate storage facilities. For this reason, Feed the Future's USAID/Ethiopia's Agricultural Growth Program – Agribusiness and Market Development in Ethiopia (AGP-AMDe) applies a holistic approach, focusing on strengthening organizational capacity, forging market linkages and facilitating access to finance (see Box 3.1).

Box 3.1: ACDI/VOCA's Holistic Approach to Value Chain Strengthening in Ethiopia

USAID/Ethiopia's Agricultural Growth Program is using a "push-pull" approach to facilitate farmers' access to markets and strengthen 6 value chains, of which four are primarily for exports (sesame, chick peas, coffee and honey) and two are for domestic markets only (wheat and maize). In the sesame value chain, for example, the project has helped to reduce post-harvest losses through the building of four 5,000 metric tons (MT) warehouses to store and process the sesame before exporting it (70% to China), which benefits 37,350 farmers in Ethiopia. For the honey value chain, the project provided grant support of US$90,000 for processing equipment and to remodel the facility and facilitated US$100,000 of finance for working capital, which leveraged a 30,000 Euro private investment and a 500 MT purchase contract, benefiting approximately 5,000 honey cooperative members. The project is well on its way to achieving its first four objectives, with much of its remaining work to scale up its results to serve 1 million smallholders.

(continued on next page…)

[6] Presented at meeting of the Society for the Study of Reproduction in Pittsburgh, 2009.
[7] Ibid

(…Box 3.1 continued)

AGP-AMDe Objectives:

1. Value of exports of agricultural commodities - US$148 million
2. Value of new private sector investment in agriculture sector leveraged - US$60 million
3. Facilitated access to US$30 million in rural loans
4. Number of full-time equivalent (FTE) jobs created – 10,022
5. Benefit to 1,000,000 Smallholder Farmers

Lesson 2: We need to aim higher than just restoring the food insecure to pre-crisis levels

As Vanessa Adams, Chief of Party of USAID/Ethiopia project for ACDI/VOCA explains, "Making $2 per day is not enough!" Kimberly Tilock, Global Communities' Country Director in Kenya, agrees and for this reason, her project works on the continuum from relief to recovery and resilience (see Box 3.2).

Box 3.2: Global Communities Preserves Food Security and Nutrition in Kenya

Funded by USAID/Office of Foreign Disaster Assistance, Global Communities' Protecting and Restoring Economic Sustainability to Ensure Reduced Vulnerability Plus (PRESERV+) Project worked to mitigate vulnerability and loss of livelihoods among households vulnerable to food insecurity in Kitui and Tharaka counties of eastern Kenya, which are affected by cyclical droughts. Designed as an emergency disaster response, the main goal of the program was to get people back to the standard of living they had prior to the recent droughts in Kenya, which had resulted in reduced crop yields, higher food prices, loss of herds, selling off of assets, poorer nutrition and higher rates of childhood stunting. Through implementation, however, Global Communities applied an integrated, markets-based approach to support long-term food security. To improve the availability of food, the project focused on stabilizing production and maximizing agricultural assets, promoting drought tolerant seeds, training on improved agricultural techniques, preparing land and soil, and post-harvest handling. To improve household nutrition and diet diversity, the project encouraged the development of kitchen gardens and worked to reintegrate ancestral foods, such as kale and amaranth, into the local markets and diets. To reinforce the uptake of these foods, they conducted cooking classes and recipe sharing. To improve household incomes, the project also encouraged sales of excess kitchen garden produce at local markets. Global Communities facilitated linkages between buyers and sellers and supported farmer field days to get broader buy-in from target communities. To ensure long-term sustainability, Global Communities monitored the adoption of new behaviors and approaches over time. For example, they checked to see whether the drought tolerant seeds were still being used and from where they were purchased. The program checked for the acceptance of new foods through the kitchen gardens by farmer households, and the replication of kitchen gardens by others in the community. They looked to see if market linkages had been sustained. All these indicators point to the degree to which approaches employed by the PRESERV+ program were leading to long-term solutions to food insecurity.

Lesson 3: The provision of timely, reliable and regular early warning information can help decision makers to put in place interventions that can reduce the risks of food insecurity for vulnerable groups

USAID created the Famine Early Warning System Network (FEWSNET) program to support the assessment of shocks that threaten food security and livelihoods on a global level, and to encourage appropriate decision-making and responses, such as was used in predicting the famine in Somalia in 2011. As USAID's FEWSNET program highlights, "Livelihoods protection is important for ensuring food

security over the medium and long-term." The process starts with an assessment of how each family is able to meet its minimum food and income needs (measured as a percentage of minimum food needs met in terms of kilocalories). It then incorporates the potential impact of a particular shock and looks at what the likely impact would be in terms of reduced access to food and income, also factoring in wealth and assets (including animals) that could be sold to mitigate the negative impact of the shock. Then an assessment can be made in terms of what number and type of people would fall below the minimum threshold, so that appropriate responses and coping strategies can be put in place to mitigate the negative impacts on livelihoods protection and food security. Box 3.3 highlights the six step early warning assessment process.

Box 3.3: FEWNET Livelihoods Assessment Process

1. **Define livelihood zones** – this helps to identify people who share the same patterns of livelihoods for geographical targeting and to develop customized indicators for livelihoods monitoring.

2. **Breakdown population according to wealth profiles** – this allows the population to be disaggregated according to assets and needs to determine who and how many people will likely fall below the food security threshold.

3. **Profile livelihoods** – this provides the baseline information, quantifying food, income and expenditure patterns based on a common currency, which facilitates comparisons across livelihood zones, wealth groups and countries.

4. **Specify the problem** – by identifying a specific shock, analysis can be performed on the baseline data, determining the economic consequences on various households. Specific problems might include 75% crop losses, food prices double, chicken prices drop 50%, or migratory labor increases 50%. This information helps to select the best livelihood strategy to prepare for such a shock.

5. **Analyze household coping capacity** – this assesses the household's ability to respond to the shock, for example, to draw down on food stocks, sell animals, increase production (wild food or fish), identify other sources of income and reduce expenditures. With this information, the amount of external assistance needed can be calculated and factored into response strategies.

6. **Predict outcomes** – Factoring in household and external resources to mitigate the negative impacts of a shock, outcomes can be predicted in terms of livelihood protection and survival thresholds. This information can be used to call for additional assistance and strategies to mitigate impacts in the event of the occurrence of those shocks.

Lesson 4: Food security frameworks should be developed in partnership with multiple country stakeholders, including large traders, farmer associations, governments and donors

Without good coordination, excess food can go to waste in one country while another country's people starve. This was the case during the drought in Kenya, when some countries did not allow the sale of their bumper maize crops to be traded across borders. Many development specialists have found that after a systemic economic shock or natural disaster, the public and private sectors become very open to working together on food security issues, as both are negatively impacted. Tim Muzira, Value Chains Manager of

the East African Exchange, explains that one of the biggest challenges in Rwanda is to link more smallholders to the commodities exchange, as most trade has happened informally in the past. To facilitate this, the East African Exchange is training farmer cooperatives to trade directly on the exchange and to use futures trading to manage and hedge risk in 2014. In 2013, 42% of Rwandan maize was discounted due to high levels of aflatoxin and insect damage. CARANA's Post-Harvest Handling and Storage project and USAID/COMPETE conducted research on how this discount had hurt maize farmers and proposed a number of solutions to address post-harvest losses in the future (drying maize to the right moisture levels, equipping some cooperatives with moisture meters and training cooperatives on best practices in grain and cereals handling and storage). By working with the Ministry of Agriculture and Animal Resources (MINAGRI) in Rwanda, the project was able to help farmers to be informed and make better decisions, which can benefit their families and communities. Furthermore, Mr. Muzira argues that governments need to help farmers meet international standards, as "these are public good interventions." Vanessa Adams argues further that government should be used to "kickstart investment, not create long-term dependence" on government funding.

IV. Reducing Costs & Risks of Serving Rural Clients

One of the greatest challenges in rural and agricultural development is to be able serve the diverse needs of rural and agricultural households in a cost effective manner. Furthermore, agricultural businesses often face additional risks associated with the uncertainties of weather, production, pricing and market demand. These factors are considered when identifying business and investment opportunities, often leaving rural and agricultural areas at the bottom of the pile. This chapter highlights some of the ways in which businesses and development practitioners have been able to overcome these challenges and the lessons learned along the way.

Lesson 5: Farmers are willing to pay for business development services if the service contributes to their profitability

Business development service (BDS) providers have played an important role in supporting farmers and rural entrepreneurs to help them run more effective businesses by providing services to address various business needs, such as extension services, marketing, and even facilitating access to finance. Government and donor-funded programs have long subsidized these services, based on the preconceived notion that farmers are unable or not willing to pay for the services, leading to market distortions. However, with the increasing push toward market sustainability in agricultural development, there is a growing need to develop market-driven models that cover the costs of BDS. Based on its experience in the Kenyan dairy sector, Land O' Lakes has learned that farmers are indeed willing to pay for services, as long as they contribute to the bottom line (see Box 4.1). By developing affordable, local providers, business development services can be sustainable and continue beyond a project's life cycle, resulting in increased impact over the long-term.

Box 4.1: Accelerating Market-Driven Business Development Services in Kenya

The USAID-funded Kenya Dairy Sector Competitive Program (KDSCP) was implemented through a business development services approach to improve the dairy value chain, which was hard hit by the 2008 post-election violence. Land O' Lakes employed a "light touch" facilitation approach to build capacity and catalyze growth in BDS, which comprised of three key elements, as described below:

1. **BDS Diagnostic Analysis**. KDSCP assessed both the supply- and demand-side of the targeted solutions to identify constraints (i.e. farmers lack information about available solutions; or BDS providers don't offer the benefits and features that users want or are risk averse to targeting new clients). The project also identified potential market-based BDS providers and worked with them to develop strategies for commercial viability. The aim of the analysis was to identify the key value chain players and their constraints, avoid market distortions, expand outreach, and identify embedded or fee-based private sector opportunities.

2. **Capacity Building.** KDSCP selected dairy BDS providers based on (i) capacity to offer key services, including farmer aggregation, and economic analysis of how BDS providers would cover costs and (ii) analysis of the impact of their services on the subsector and the farmer's business.

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(…Box 4.1 continued)

Market-based BDS providers included input suppliers, raw milk buyers, transporters, dairy processors, farmer cooperative societies, exporters, management consultants, dairy related associations, technology suppliers, government departments, and demonstration farms, among others. The project built the capacity of BDS providers by helping them package their services according to the needs of their target market, stimulated demand for their services, and kept them abreast of market trends.

3. **Market Linkages** were created through promotion and development of win-win contracts between farmers and processors or farmer cooperatives, using service providers. Services such as farmer aggregation and dissemination of market information were not charged on a fee-for-service basis, but instead, were embedded as part of the transaction cost between the BDS provider and farmer aggregator (i.e. processors, traders and technology firms).

Through this approach and various other services, KDSCP facilitated farmer's access to artificial insemination services, improved animal feeds and formulation, animal health and milk quality expertise, as described below.

After establishing marketing linkages through purchase contracts, farmers were willing to invest in artificial insemination, animal health, milk collection and bulking services, which were paid for by means of a deduction from their proceeds, ranging between 0.50 to 3 KSH (less than US$0.04) per liter.

In addition, farmers demonstrated that they were willing to pay transport and entry fees to attend livestock exhibitions and shows where they could see real life animals and receive training on fodder establishment management and preservation. In particular, farmers were incentivized when processors started offering volume bonuses to those farmers who delivered high volumes. The base price was KSH 25 (US$0.29) per liter for 1,000 liters whereas any cooperative delivering 2000 liters would earn KSH 26 (US$0.31) per liter; 3000 liters would earn KSH 27 (US$0.32) per liter, 4000 liters would earn KSH 28 (US$0.33), and so on.

Cooperatives also proved that they were willing to pay for business planning and strategic plans once they realized the importance of these documents, particularly when negotiating expansions with potential partners and financial service providers. KDSCP stimulated demand for these services when it brought the management of cooperatives together with investors and financial institutions. Farmers then authorized the management to incur and deduct from the farmers milk proceeds.

As a result, more than 1,000 firms are now providing new business services to dairy producers on a private-sector basis. These value-adding services helped to increase milk yields by 20% to 8.17L/cow/day (with women-headed households producing 8.25L and men-headed households producing 8.15L/cow/day) and increased milk purchased from smallholders by 146% to 462,231 MT and KES 16 billion (US$ 188 million), contributing to farmers' bottom lines. In addition, the volume of milk conforming to quality standards increased by 140%, resulting in a 208% increase in farmer revenues.

Lesson 6: Accurate, timely and "smart" information communication technology (ICT) can reduce risks for all actors in the value chain, as well as financiers

Farmers often lack the market and financial management information needed to help them better manage their businesses and gain access to finance for working capital, which is essential for a successful production campaign and harvest. In order to have confidence in provisioning working capital finance, lenders need sufficient transparency to monitor their investments and suitable collateral, but are inhibited

by remoteness of clients, poor access to financial records, and a lack of value chain-specific expertise. Furthermore, traders require accurate and updated inventory data – for example, available coffee parchment – to gauge global supply trends and manage price risk. Access to critical market information can address these needs, reducing risks for all value chain actors and their financiers. Box 4.2 highlights how TechnoServe developed an ICT solution that provides accurate, timely and "smart" information to address the vital information needs of value chain actors in the East African coffee sector.

Box 4.2: ICT Solutions to Improving Access to Finance through SMS-based Bookkeeping and Financial Reporting

SMS Bookkeeping was developed by TechnoServe (TNS) to facilitate access to working capital for coffee wet mills. This mobile accounting and stock tracking system serves to increase lenders' willingness to lend by reducing monitoring costs and facilitating access to bookkeeping information. Finance and stock information is supplied regularly by each wet mill via SMS message. The data is analyzed and is made accessible to lenders via the online platform: *coffeetransparency.com.* All user accounts are private and tailored to each user's needs. Data is displayed on an easy-to-read dashboard, making the site user-friendly and allowing lenders to quickly understand each wet-mills' financial and stock situation. Other value chain stakeholders, such as traders, can access the data to get the financial and stock information needed to monitor and manage their risks.

Wet mill accountants input key figures into their simple mobile phone devices, which are analyzed instantaneously and uploaded to a cloud-based platform. This accurate, timely and "smart" information helps reduce risks for all actors, as described in the Table below.

Table: Accurate and Timely Information Leads to Reduced Risks

Message Type	Information Provided	Reduced Risks
Daily cherry message	Information on how much coffee was purchased that day, the purchase price, as well as how much money is at the sites where money is distributed	• Farmers are forced to keep track of their finances on a daily basis • Cooperatives are aware of and transparent regarding their cash position
Weekly cash message	Information on the wet-mill's cash position, including opening balance, working capital received, and expenses	• Farmers know if they are on track for the year in relation to operating expenses • Lenders can minimize misuse of funds
Weekly stock message	Information on parchment coffee stock, which is used as collateral	• Lenders can monitor the collateral backing their investments • Exporters know how much stock is available, allowing them to gauge global supply trends and manage price risk

Designing a "Smart" and Scalable ICT Solution. SMS Bookkeeping's smart design leverages existing technology, making it scalable and flexible, as described below.

- **Technology:** SMS Bookkeeping utilizes simple mobile phones (instead of smartphones or tablets), which are prevalent in the market, thus eliminating the need for high investment costs for hardware, technology and training.

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(…Box 4.2 continued)

- **Scalability:** SMS Bookkeeping is an easy to use, off-the-shelve technology, available in even the lowest income countries, with low set-up and operating costs. There is no cost to install the program on the phone and usage costs US$0.03 per message along with a low monthly hosting fee on coffeetransparency.com.

- **Flexibility:** The system is flexible and designed to integrate new countries and languages easily. It is administered centrally by TechnoServe and can be easily adapted to the language and needs of the various user groups it serves in East Africa and now Latin America.

SMS Bookkeeping Working in the Field. SMS Bookkeeping has been successfully implemented in Tanzania, Ethiopia, Rwanda and Guatemala. Value chain actors and financiers have reduced risks, resulting in improved price risk management and access to finance for wet mill cooperatives, as described below.

Rwanda Trading Company (RTC) is a coffee exporter that also provides cooperatives with fee-based services, such as working capital financing, price risk management, export logistics and links to international buyers. During previous seasons when coffee prices were volatile, RTC used SMS Bookkeeping data to understand the cost of coffee production, as well as stock levels available. This information enabled them to put up a hedge for their cooperatives. Thanks to the hedge, the cooperatives were still profitable and approximately 232 RFW per kilo (US$0.16 per pound); without the system in place, they would have suffered a loss.

Lesson 7: Agricultural franchises can unlock value and reduce the risks and costs of serving smallholders

The cost-effective delivery of agricultural extension and financial services to smallholder farmers has long been a tough nut to crack in rural and agricultural development due to a key underlying issue: low economies of scale resulting from fragmented land holdings. Development practitioners have employed various approaches to overcome this challenge by mobilizing farmers, using cooperatives, processors, and traders as aggregation points. In Nigeria, Doreo Partners, an impact investment firm, developed an agricultural franchise model, called Babban Gona (meaning "Great Farm" in the Hausa language) to aggregate farmers by franchising smallholder farmer groups, through which Babban Gona provides cost effective end-to-end agricultural technologies and services, which optimize yields and labor productivity while simultaneously improving market access (see Box 4.3).

Box 4.3: Babban Gona's In-Kind Loan Package Helps Mitigate Risks and Reduce Costs

Babban Gona is an agricultural franchise on a path to lift 1 million Nigerian smallholders out of poverty by 2025 by helping smallholder farmers gain access to economies of scale. Babban Gona is the franchisor, providing services to franchisee farmer groups, called "Trust Groups," comprised of up to five smallholder members. As the franchisor, Babban Gona provides each Trust Group with various services to unlock value and reduce the risks and costs. These services are bundled into an in-kind loan product, as described below:

- **Training** – Babban Gona provides agricultural extension training to transition smallholder farmers from subsistence to commercial farming and to ensure the use of agricultural best practices. Additional services include financial literacy, business skills and leadership training.

- **Inputs** – Leveraging economies of scale, Babban Gona is able to access discounted prices on quality inputs, including fertilizers and seeds, for its members, thus reducing costs and improving yields. In addition, since Babban Gona is entrenched in its members' operations, they can ensure the timely and appropriate use of inputs.

- **Credit –** Babban Gona provides its members access to low cost, in-kind capital in order to improve their farm operations. In 2013, members' interest rates were at 11% for the season (10 months); women farmers received discounts of 0.5% on their interest rates to incentivize their participation. The loan cost – or the approximate cost of providing these services – is US$500 per hectare.

- **Market services** – Babban Gona is entrusted by its members to market their goods and facilitate market linkages. In 2012, the organization set up an off-taker agreement with Nestlé, which resulted in a 37% increase in profits (or an end value of up to US$1,350 net income per hectare) for its members.

Additionally, Babban Gona members have access to mechanization services in the form of threshers. Threshing services enable members to transition from manual threshing to a more effective and efficient mechanized process.

Babban Gona has recorded great success with a repayment rate of 99.5% in 2012 and 99.7% in 2013. In the 2013 season, member farmers earned yields of up to 6.9 metric tons of maize per hectare, which is five times the national average. In the 2014 season, Babban Gona will work with 1,800 smallholder farmers on 1,800 Ha of land.

To further reduce costs and pass on savings to its members, Babban Gona minimizes overhead costs by being resource conscious. For example, the organization's offices are solar powered as regular access to grid electricity is one of the biggest challenges for businesses in Nigeria.

[1] Nigerian Federal Ministry of Agriculture

Lesson 8: Smart business models can improve efficiency and reduce costs of financial services

The success of microfinance has been driven by its ability to address three classic challenges:

- Market challenge – understanding and responding to the market needs of low income people;
- Risk challenge – developing effective responses to deal with specific risks; and
- Efficiency challenge – establishing business models that cover costs and allow for some profit.

Today, as the industry is maturing, it is becoming obvious that much less progress has been made with regards to the efficiency challenge compared to the other challenges, as operational efficiency is one of the most neglected aspects in microfinance. According to the Microfinance Information Exchange, operating expenses constitute 63% of a microfinance institution's revenues on average. Unlike financial costs, which are largely dictated by the market, operating expenses are within the control of the microfinance institution.

As the financial sector gravitates toward automation and becomes increasingly competitive, MFIs will have an increasingly difficult time differentiating themselves against competition and competing on anything other than price – resulting in a race to the bottom. To stay competitive and profitable, MFIs will need to uncover creative ways of offering value to clients while maintaining a high degree of operational efficiency. Business & Finance Consulting (BFC) proposes Alexander Osterwalder's Business Model Generation Canvas (see Box 4.4) as a useful tool to come up with innovative means to meet customer needs while maintaining a sustainable cost structure. The advantage of this tool is that it helps the institution to look at all major issues simultaneously so that holistic solutions can be identified.

Box 4.4: Business Model Generation Canvas by Alexander Osterwalder

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An organization's business model can be described using nine basic building blocks, as depicted above in the business model canvas and as described below:

1. **Customer segments** are the groups of people for whom your organization is creating value, including simple users and paying customers. Applied to agricultural finance, market segmentation (i.e. corporate farmers, emergent farmers, small scale farmers, subsistence farmers) is vital in reducing the complexity and cost of service delivery and thus enabling good targeting that allows for standardization of product offers, delivery channels and customer service.

2. **Value propositions**. For each segment, you have a specific value proposition. These are the bundle of products and services that create value for your customers. In agricultural finance, farmers need more than just credit. Financial institutions have the opportunity to position themselves by shifting away from a single focus on credit, gradually adding new services to the product line in order to diversify income, reduce customer dropout rates, and keep client acquisition costs low.

3. **Channels** describe through which touch points you are interacting with customers and delivering value. For example, a Farm Card facilitates farmers' access to a credit line and allows the customer to benefit from multiple services via the bank's branch network, agents or ATMs. The use of technology allows for faster scale up and a reduction in direct service to customers once a critical mass is reached, thus reducing costs.

4. **Customer relationships** outline the type of relationships you are establishing with your customers. For smallholder farmers the value chain approach has been used as an effective way to bank on existing relationships between smallholders and processors. It allows us to serve the large segment with low labor intensity by using cooperatives, input suppliers, and processors as alternative delivery channels.

5. **Revenue streams** make clear how and through which pricing mechanisms your business is capturing value. Examples include interest income, loan origination fees and mobile transaction fees, among others. Interest rates will be dictated by market rates as well as pricing of risk, such as pricing operational costs of small scale farmers, or pricing risk based on cash flow analysis for corporate farmers.

6. **Key resources** show which assets are indispensable in your business model. Examples include agronomist bankers, agri-lending scoring, etc.

7. **Key activities** show which things you really need to perform well. Examples include financial literacy education, village visits, trade fairs, local festivals, etc.

8. **Key partners** show who can help you leverage your business model since you will not own all key resources yourself nor will you perform all key activities. Examples include NGOs, business development service providers, agri-unions, agri-coops, universities, farmer chambers, mobile network operators, etc.

9. **Cost structure.** Understand drivers of costs based on target customer needs. For example, the cost structure for corporate farmers may be value driven, whereas for small scale farmers, it may be cost driven, so products should be adapted accordingly.

[A] Adapted from "The Business Model Canvas": http://www.businessmodelgeneration.com/canvas

V. Preparing for Sustainability of Future Livelihoods

Given population growth projections, demographics will be increasingly dominated by youth, with rural households often led by women in charge of feeding their children primarily from subsistence farming and small income generating activities. This is especially true in sub-Saharan Africa where 31% of the population is between 10 and 24 years of age[8] and women make up approximately 50% of the agricultural labor force.[9] Women and youth are often disadvantaged in terms of being able to take advantage of education and market opportunities needed to improve livelihoods and food security. For this reason, there is a need for the development community to work toward leveling the playing field by making concerted efforts to serve the livelihood needs of women, youth and other disadvantaged populations. This chapter highlights some of the approaches and lessons from serving these target audiences and proposes ways to ensure interventions are sustainable and scalable over time.

Lesson 9: Women farmers need secure land tenure and access to information, productive resources, and market opportunities to increase production, income and food security

Sometimes called the "forgotten farmers," women farmers play an essential role in agricultural production, yet the majority lack secure land tenure.[10] Women need to have "control" of resources, such as land titles, bank accounts, and the ability to maintain control of their assets as their agribusiness demonstrates profitability. This poses a large challenge for the sustainability of future livelihoods and food security in Africa and around the world as women produce over half of the world's food. Without secure rights to land, many women are disinclined and discouraged to make investments to improve their land, production, and incomes. Providing women farmers with secure land access (see the example of Mali in Box 5.1) has proven to be a critical step in their empowerment.

Box 5.1: Land Access as a First Step to Empowering Women Farmers

In Soumatogo, Mali, a collective of women farmers went before the village chief, Amadou Plea, and the local mayor, Sedou Diarra, to ask for a piece of land to collectively farm. The women wanted to test new agricultural techniques on the land but the caveat to the request was that the women wanted an official deed to accompany the allocation of land. The village chief said it was the first time in his village that women had asked for land – and insisted on an official deed. In front of the assembled community, the chief approved the provision of one hectare to the group and a deed was granted for a three year period. Confident in their official status as landholders, the women's group was able to test new agricultural techniques such as a compost pit, which resulted in lower input costs and increased yields per hectare.

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[8] Population Reference Bureau, *Youth Population Fact Sheet 2013*
[9] FAO, *The Role of Women in Agriculture*, 2011
[10] Secure land tenure is defined as the ability to own, use, control, sell, inherit, and make decisions about land. www.landesa.org.

(Box 5.1 continued…)

The women's collective worked with the Nyeleni project, part of CARE's Pathways to Empowerment program, which works to secure land for women farmers, improve agricultural practices, develop market skills and build gender awareness and nutrition knowledge. The project has found that access to land is one of the first and most challenging issues and that community dialogues have proven to be critically important in raising awareness among men to assure them that women's land access is not a threat, but benefits the entire community. Already, the Nyeleni project has secured 214 hectares of land for women and aims to facilitate even more long-term or permanent land agreements so that as the women famers expand their businesses, they can construct infrastructure (storage sheds, processing mills, etc.) that are needed.[A]

[A] This case study and others centered on land rights for women, men and communities in Africa can be found on the Focus on Land in Africa website (www.focusonland.com). Focus on Land in Africa is a joint initiative of Landesa and the World Resources Institute and serves as an educational resource that aims to elevate land and natural resource rights as an urgent priority for development in Africa.

In addition to facing challenges of land rights, women often only have access to more degraded and inferior land, while men possess the most fertile land. Men are more likely to receive extension services and new technologies, as well as control the sales of produce and household income. In northern Ghana, MEDA's Greater Rural Opportunities for Women (GROW) program employs a market-driven approach to address these aforementioned challenges and to integrate women into the soybean value chain (see Box 5.2). If provided with secure land rights, the right information, and access to quality inputs, technology and finance, women can not only increase their production and income, but household food security and nutrition can be improved as well, benefiting the entire community. When economically empowered, women gain confidence to participate more actively in household and community decisions.

Box 5.2: MEDA Builds Food Security through Market Linkages for Rural Women Farmers

Established in 2012, MEDA's GROW program works with 20,000 women farmers and their families in northern Ghana to increase food security and improve nutrition in the region through agriculture. Women farmers were chosen because they are marginalized and working with them has a multiplier effect: women share information and best practices with their spouses and children and teaching women about good nutrition leads to improved nutrition of the whole household since women are responsible for nourishment and often control the diets of the family.

Following a market assessment, the soybean value chain was chosen due to the demand for soybeans in the market, its nutritious benefits, the positive effects it has on soil fertility and the fact that women were already planting the crop. The program uses a community mobilization model in which MEDA works with key facilitating partners to train women lead farmers who work with 20-25 members, providing extension services, training, and monitoring. Women receive training on agricultural best practices, nutrition (including how to incorporate soybean into the diet), financial literacy, and conservation practices. MEDA puts special emphasis on conservation because it is important for women farmers to adjust to increasingly unpredictable rainfall patterns.

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(Box 5.2 continued…)

While the project faced initial challenges of low participation of women, MEDA is preparing for expanded participation in the upcoming season by a) strengthening women's use of village savings and loan associations so that they have the money they need to purchase inputs and services for soybean production and b) sharing with community leaders and other women, information about the sales women farmers have been able to make from their first harvest. During the initial season, participating farmers produced an average of 8 bags or 800 kilos of soybeans per acre. MEDA facilitated purchases by several soybean processing companies who are eager to include GROW participants in their supply chain. These companies are paying US$43-50 per 100 kg bag of soybeans and cover the cost of transporting the beans to the processing plants. This initial success is encouraging other farmers to participate in the project. MEDA anticipates the number of participants to triple or more in the upcoming season.

Lesson 10: Scaling and Sustaining Integrated Interventions Can Be Achieved Through the Transfer of Skills to Locals, Especially Youth.

Food security is multifaceted and encompasses many issues including production, storage, access, nutrition, etc. Many programs choose to address one aspect, such as increased agricultural production, while leaving other issues unaddressed. In the case of the USAID Rwanda's Ejo Heza program, an integrated approach, which combines literacy, financial, agricultural and health and nutrition services, is used to improve the livelihoods and food consumption of 75,000 Rwandans. Through this approach, the issue is regarded in a holistic manner and the capacity of households is built on multiple levels.

To achieve scale and sustainability, the program uses an innovative "Be the Change Volunteer" (BCV) model to transfer the necessary knowledge, skills and attitudes to volunteers who in turn, train different community groups (see Box 5.3). In this win-win situation, community members receive needed training and local leadership is built, ultimately empowering the community. As Alphonse Munyentwari, Governor of the Southern Province of Rwanda states, "Poor communities are not beneficiaries, they are actors." The program also works closely with local government and NGOs to leverage local resources and to ensure that the program is complementary to local efforts and in line with district and national development plans.

The Farmer Field School (FFS) approach of the Rwanda Agricultural Board (RAB), also counts on community members to become trainers of groups of farmers. In this intervention, which is supported by the Belgian Development Agency BTC, agriculture is the clear entry point, but it does not stop there. One of the facilitators explains: "Even though it is agriculture that brings us together, our group works on many other aspects such as gender, nutrition, health, etc. This is a consequence of the fact that in FFS, we learn to find our own solutions for our challenges. So we find local trainers for the topics we want to know more about." In order to decrease the cost per final beneficiary, the intensively trained facilitators each work with several groups.

Box 5.3: USAID Ejo Eza Program Builds Local Leadership

USAID Ejo Heza, which means "brighter future" in Kinyarwanda, is implemented by Global Communities in collaboration with Save the Children, the Rwandan government and four local Rwandan NGOs. Each of the four focus areas serve as an entire program. Different groups exist within each program and when community members enter one group, it serves as an entry point to the other programs. For example, a woman might join a savings group, and through that group, also gain exposure to literacy or extension services.

The program partners with local Rwandan NGOs to deliver the literacy and health services, using the BCV model. Volunteers provide training as group leaders, and while volunteers may specialize in one service area, they receive training across all areas. Volunteers do not receive a salary, but they are motivated by the recognition they receive in the community for their efforts. In addition, their knowledge and skills sometimes get them noticed for employment with NGOs. BCVs are also used in the financial component to facilitate savings and lending groups or cooperatives. The program invites financial service providers to the field to witness the program in action and works with them to expand outreach and develop products that respond to the needs of the rural population.

Mobilizing people is a challenge, but cooperation with local authorities and organizations can help to facilitate the process. After only two years working with 1,600 BCVs, the Ejo Heza program has served 42,123 people in the following ways:

- 12,000 people have graduated from literacy classes;
- 1,251 savings groups have been established and 26,113 people have been linked to financial services (68.5% female; 31.5% male);
- 34,367 farmers have been trained in agricultural extension services;
- 42, 123 people have been trained in child health and nutrition; and
- 7,233 kitchen gardens have been established.

Youth is another area in which sustainability and scalability can be accomplished through empowerment of the target audience. Fundación Paraguaya's Financially Self-Sufficient (FSS) school model (see Box 5.4) is designed so that a school's operating costs are covered through student-run agribusinesses or other commercially viable, on-campus enterprises. The model links youth to the market and develops their business and leadership skills at a young age, preparing them to succeed later on as an employee or entrepreneur in the workforce.

Box 5.4: Fundación Paraguaya's Market-Driven Approach to Education

The education systems in many developing countries are constrained by the quality and availability of schools. Youth often feel that what they learn is not relevant to their needs or the demand in the labor market, and schools are constrained by a lack of resources. The Financially Self-Sufficient (FSS) school model was developed in response to these two obstacles. In the FSS model, students learn the underlying concepts of business and entrepreneurship alongside general education. They practice what they learn in the classroom in the field and through the school's different businesses. Students are responsible for all aspects of the business, including production, pricing, marketing, selling, managing financial transactions, and monitoring results. Students rotate through the different business units, allowing them to select a specialization and take on greater responsibilities as they get older.

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(…Box 5.4 continued)

Fundación Paraguaya estimates that it takes 5-10 years for a school to become financially sustainable.Some students start their own microenterprises and in Paraguay, after graduation, the school links them to a local MFI to access financial services to start or expand their business. Through the sales made by the different school businesses, the schools' operating costs are covered. Fundación Paraguaya estimates that it takes 5-10 years for a school to become financially sustainable.

There are currently 50 schools in 30 countries around the world that are replicating the FSS model in partnership with Fundación Paraguaya and its sister organization, Teach A Man to Fish. In 2011, Fundación Paraguaya began a partnership with The MasterCard Foundation to replicate the FSS model in Tanzania where it is currently working with 20 government schools and five private schools. In replicating the FSS model in Africa, certain cultural and contextual challenges have surfaced. First, there is the issue of a negative stereotype of farmers; many school businesses focus on agriculture, but parents and youth have a negative stereotype of farming and do not see it as something for them to aspire to, but rather it is something to rise above. Second, there is the issue of getting buy-in from the teachers to interest them in the development and running of school-based enterprises in addition to their teaching activities. There are also challenges with linking graduates to financial service providers and sourcing start-up capital to develop school businesses. Fundación Paraguaya is working on these issues through community awareness building and comprehensive teacher training. Throughout its experience in establishing FSS schools around the world, the organization has learned that no two schools are alike and that school businesses need to be carefully tailored to the local context and the market needs of the community.

Lesson 11: Creative partnerships can help to facilitate access to finance for young entrepreneurs as well as small and medium enterprises

According to IFC research, there is a US$2.1-$2.5 trillion gap in unmet finance needs for SMEs in developing countries.[11] To fill this substantial void, multiple forms of finance are required. While banking is the largest and most flexible form, it is also the most difficult to source in a high-risk context. Research shows that banks view SMEs as a growth segment and are taking steps to adjust their business models to respond to this opportunity. However, certain non-negotiable bank requirements, such as financial and credit history, can be major challenges for SMEs, hindering their access to finance. Creative partnerships and financing models involving both the public and private sector are needed to help SMEs surmount these barriers to finance.

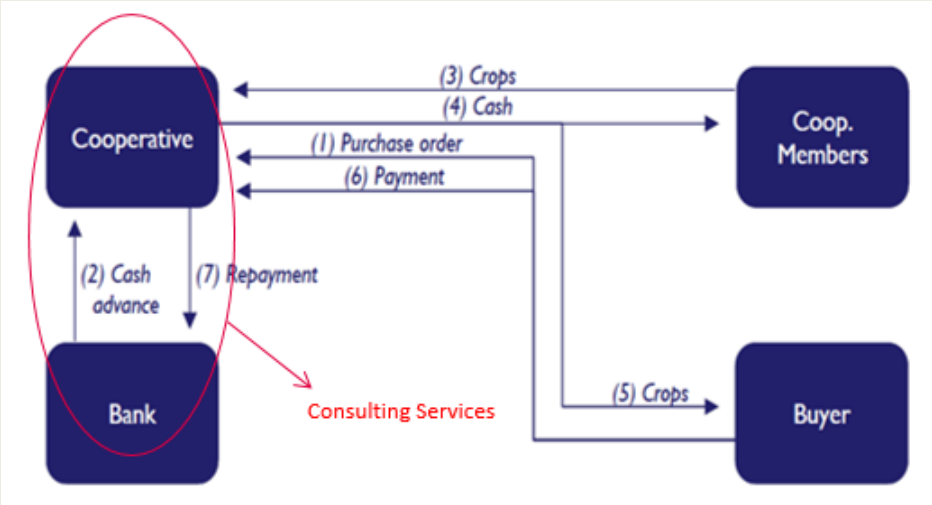
In the case of the USAID-funded Rwanda Post Harvest Handling and Storage (PHHS) project (see Box 5.5), an innovative financial model was piloted between the government, a commercial bank, a private sector consulting company and other value chain actors to help grain merchandizing cooperatives access finance. An important component of the financial model was the use of a financial facilitator. A financial facilitator, i.e. local consulting company or independent consultant, supports SMEs and banks with a range of services, such as identifying opportunities, supporting marketing efforts, and strategizing on approaches to facilitate and scale up finance. Financial facilitators are paid for their services and are incentivized by the market to facilitate deals between banks and SMEs. The financial facilitator model is valuable to financial institutions because technical assistance is both resource and time intensive and it is not a role that most FIs are interested in.

[11] IFC, McKinsey & Co. 2010

Box 5.5: USAID Post Harvest and Handling Storage Project Utilizes Financial Facilitators to Help Cooperatives Access Credit

The USAID/Rwanda Post Harvest Handling and Storage project, implemented by CARANA Corporation, discovered that a major problem faced by the grain merchandizing system in Rwanda was that, due to a lack of access to credit, cooperatives were unable to pay farmers in cash for their crops, which led to side-selling by farmers for below market prices and left cooperatives unable to aggregate enough grain to fulfill their contracts with buyers. In response, the project developed a credit merchandizing model (see Figure 1) which integrates financial facilitation to address to the cooperatives' credit needs.

Figure 1: PHHS Purchase Order Finance Model



In developing the credit model, there were three key roles that made financing work:

- **Government of Rwanda (Catalyst and Connector)**: The Ministry of Agriculture and Animal Resources (MINAGRI) brought in the World Food Program (WFP) as a buyer. The WFP issued purchase orders that served as collateral for cooperatives. MINAGRI also arranged the provision of a credit guarantee up to 75% of the principal by Access to Finance Rwanda.

- **KCB Bank Rwanda (Financial provider)**: The bank developed the Zamuka Muhinzi product, which provides cooperatives with working capital as well as investment capital for storage facilities that are managed by the cooperatives, the project and KCB Bank.

- **Synergiadev (Financial facilitator)**: A private consulting company in Rwanda that was hired by PHHS to facilitate the interaction between the bank and cooperative. This included identifying cooperatives eligible for the credit product, helping cooperatives compile a credit history and complete a loan application, estimating potential commodity volumes, facilitating insurance coverage of the storage facilities, ensuring proper quality and protection of commodities and notifying all parties of any problems that might interfere with the successful completion of the distribution and repayment of the loan.

With access to finance, the cooperatives were able to make grain merchandizing a viable livelihood. Moreover, the financial facilitation model proved to be good business for Synergiadev, which has been hired by KCB Bank to continue to scout for other cooperatives that might be eligible for the new credit product.

Similar to the lack of access to finance for SMEs, many youth in developing countries have little access to formal financial services. For a variety of reasons, including lack of experience, collateral, and perhaps most importantly, lack of trust, financial service providers are hesitant to provide services for youth and reciprocally, youth are hesitant to seek them out. However, youth can be a valuable customer base for financial institutions as seen in the cases of the YouthInvest and AIM Youth programs (Box 5.6 and Box 5.7); the key is to understand their needs and to design and market products accordingly. Partnerships among stakeholders to provide non-financial services, such as financial literacy education, job training, and life skills training, have also proven to be essential complementary services.

Box 5.6: Providing Integrated Youth Financial Services

The YouthInvest program, implemented by MEDA and funded by The MasterCard Foundation, is a six year program that uses an integrated services approach to achieve greater financial inclusion for youth. The program focuses on three areas:

- **Training**: the training services cover a wide range of topics including financial education, entrepreneurial skills, life skills and computer skills. The trainings have evolved since the beginning of the program to respond to youths' needs. For example, the "My Rights, My Responsibilities" training for youth was developed after receiving reports from internship employers that youth did not show up on time and did not know proper office etiquette. The trainings are implemented through NGO partners and financial education is offered through MFIs.

- **Savings**: A requirement to participate in the program is that a youth open a savings account at a formal financial institution. MEDA worked with commercial banks and the post office to adapt savings products for youth. While the number of savings accounts increased throughout the project, the increase in the average savings was relatively small. Only 11% of youth met the specific savings goal they had set at the beginning of the training, but the project realized that the important change was in creating the behavior of consistent savings among the youth and that more were actually using their accounts to save.

- **Loans**: MEDA has worked with MFIs and financial institutions to develop customized loans for the youth. Loans are provided with the objective to develop or start a small business. The most popular sectors youth are engaged in are agriculture, trade, handicrafts and services. The majority of loans were used for business development and in a survey of loan recipients, 72% responded that they would renew the loan, while only 28% would not.

Through the program 25,390 savings accounts have been opened; 44,500 youth have been trained; and 3,800 loans have been disbursed.

Box 5.7: AIM Youth in Mali and Ecuador

Advancing Integrated Microfinance for Youth (AIM Youth) is an initiative of Freedom from Hunger in partnership with The MasterCard Foundation, to offer financial services integrated with financial education to young people 13 to 24 years old in Mali and Ecuador. At the end of the project implementation, AIM Youth had reached close to 40,000 youth with integrated services.

- **Financial Services:** The financial services consist primarily of savings mechanisms offered through financial service providers (FSPs) and non-governmental organizations (NGOs). The FSPs offer savings accounts to young people. In rural Ecuador, the FSPs utilize SmartPhones to capture savings remotely, effectively tackling one of the major barriers young people face to access formal financial services. In rural Mali, the NGOs have implemented youth Savings Groups, in which groups of young people meet regularly to save and lend money to each other. The group approach has been very effective in promoting savings on a regular basis.

- **Financial Education:** Field staff of both FSPs and NGOs facilitate the financial education to young people. This integration is easier with the group approach because the youth are already meeting as part of their Savings Groups. For the FSPs in Ecuador, the staff offer the education through the schools.

Research results from the project indicate that the combination of education and savings instruments results in stronger savings behaviors among participants.

Lesson 12. There should be an exit strategy for project supported technical assistance, including fee for service options provided by local actors.

When a donor funding ends, often times there are many outstanding issues, which can include remaining unmet needs of the community, inability to spread the services to other communities and uncertainty of work for field staff who received technical training through the project. These issues often remain to do a dissipation of knowledge, the lack of fully integrating new practices across the community, as well as a system for replicating impacts across communities. CRS has developed a sustainable and scalable approach to transitioning communities away from project-supported technical assistance services by pioneering a fee-for-service model that uses Private Service Providers (PSPs) to provide ongoing support. This model was initially developed for use with its savings and internal lending communities (SILCs) (see Box 5.8). However, the role is currently being expanded so that the PSP can offer a broader range of services in areas such as market engagement, sustainable production and innovation to SILC, producer and/or agribusiness groups. The model is designed to let demand for quality technical assistance gradually set a price for services and replace subsidized project funding. It allows for post-project expansion into new communities to achieve scale and helps to ensure group sustainability, and sustainability of outcomes, through continued service by PSPs. Additionally, it has the potential to address technical assistance gaps providing more timely and responsive support.

Box 5.8: CRS' Innovative Fee-for-Service Model

Establishing a Private Service Provider model in a new area or region takes approximately two years. Through the process, PSPs are trained by partners with the skills to support SILC groups over time. They start out as field agents and then go through a certification process to become an official PSP. The process is composed of three phases:

1. **Prep and recruiting (3-4 months)**: During this phase, the staff and field agents are hired. The project considers how many SILC groups will be formed. The two key activities in this phase include:

    - Area mapping: This is very important because it establishes where the groups will be located. During this phase, CRS works with a partner to do a detailed mapping in order to find a centralized area where the PSP will be located and work. The ideal area is a radius of 10-15 kilometers; anything larger or that requires extensive travel presents challenges to timely delivery of services.

    - Recruiting: CRS looks for local social entrepreneurs with the criteria that the person has been living in the area for a while and knows the area well. Interested persons are invited to an induction training, which includes eight days of classroom training followed by an exam. CRS trains more people than needed and those who pass the induction training can start as field agents. Field agents are provided with an initial stipend to compensate for the career curve of becoming a PSP.

2. **Certification (7-9 months)**: The first 4-6 SILC groups are started for free. This is a key component to the project and there are two reasons for it: first, the community shouldn't have to pay for the learning curve of the agent; second, it is a marketing strategy used by CRS comparable to a free sample of a product (demonstration effect), assuming that if the community likes it, they will pay for it. Included in this phase are two refresher trainings for agents and at the end, the certification exam.

3. **Network building (1 year)**: PSPs establish networks and take on apprentices when demand outstrips the capacity of the existing PSPs, who go through the process described here. This formation of a network of PSPs is a vital element in addressing the issue of scalability.

VI. Enticing Investors to Key Agricultural Value Chains

Donors and governments can play an important role in reducing barriers to entry for agricultural investors. As a starting point, most offshore investors look for reasonable political and macroeconomic stability. Donors and governments can work together to ensure an investment-friendly enabling environment, including acceptable governance, ability to enforce contracts and ease of doing business. In addition, incentives, such as access to land, tax breaks and support for infrastructure and extension services can be offered to encourage long-term investments that will create jobs and generate tax revenues. Civil society can also play an important role in stimulating investments and promoting growth of agriculture and agribusinesses. This chapter highlights some of the efforts that have been made to attract investment to support rural and agricultural development, as well as the lessons learned in the process.

Lesson 13: Governments need to attract investors with a customizable set of incentives as well as project level support.

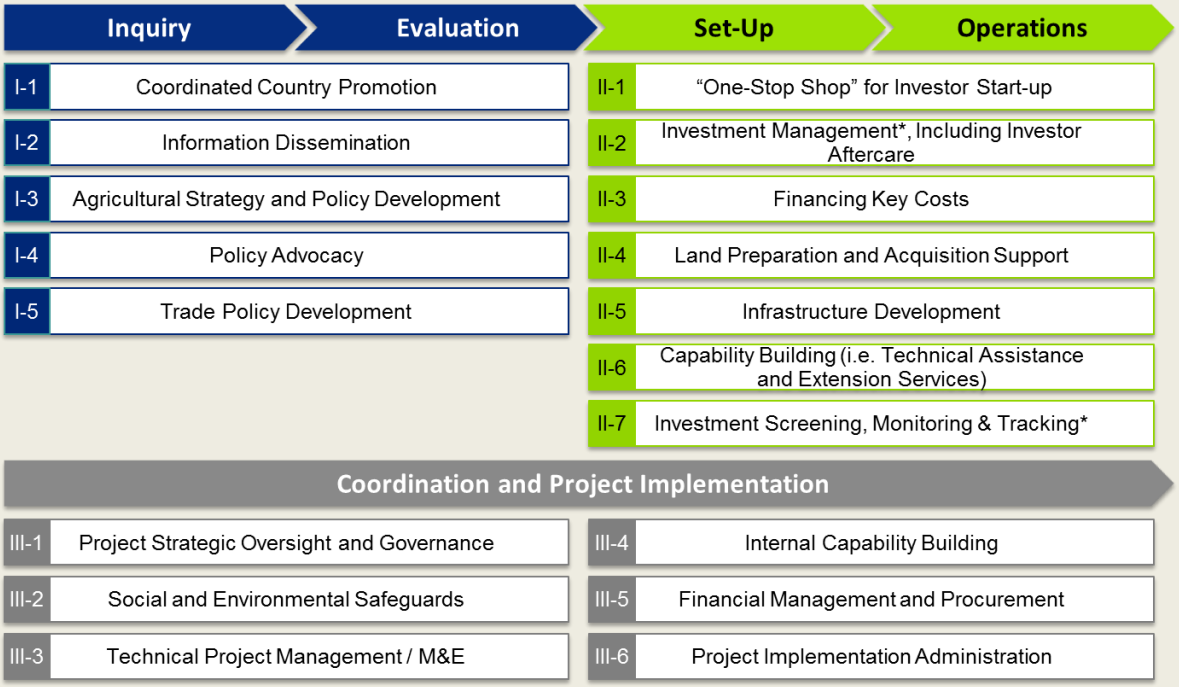
Investors are placing large amounts of capital into developing markets with increasing interest in agriculture. These investors represent a range of interests including an emerging class of social impact investors looking for a balance between social and economic returns (see Box 6.1).

Box 6.1: Types of Returns Sought by Impact Investors

Nonetheless, according to Monitor Deloitte, there are still major barriers to agricultural investment in developing countries including a lack of infrastructure, financing, land, human capital, supply security and a positive policy/regulatory environment. To address these barriers, Monitor Deloitte has identified 18 related services that governments need to be able to provide effectively to attract private sector investment to agriculture (see Box 6.2). However, attracting and placing an investment is only half of the equation; possibly the most important service area, often overlooked by governments, is ongoing project support that is necessary for investments to succeed.

Box 6.2: Services that Governments Can Offer to Entice Investors

Below are 18 related investor services that governments can use to support investors through the investor life cycle; from Inquiry, Evaluation, Set-Up, Operations as well as ongoing Coordination and Project Implementation.



Note: *Functions which are most critical at the indicated stage of the investment life cycle but are critical throughout the process

Lesson 14: The right investor is just as important as the right project when matchmaking in developing markets

In Rwanda, Karisimbi Business Partners are working with many investors looking to make deals and place funds in the Rwandan market. With so many potential investors and deals, one key to effectively allocating scarce time is to find qualified investors eager to work in Rwanda. A qualified investor for Karisimbi:

1. Invests with their "Eyes Wide Open," i.e. aware of the risks involved with investing in developing economies.
2. Is comfortable with incomplete information.
3. Has flexible investment criteria, an extended time horizon and no defined exit strategy.
4. Has a country specific commitment and/or social motivation.
5. Is able to operate with limited practical government or donor support.
6. Is actively looking for deals, not waiting for deals to come to them.

These criteria illuminate the risk profile of many investments in developing economies, which is partly what limits the number of deals that get closed in these countries. For this reason, looking locally for investors should be the starting point for agricultural projects and mitigating risk through partnerships

with value chain actors, development projects and governments can help outside investors with limited local experience enter new markets.

At the Investor Matchmaking Forum of Cracking the Nut Africa 2014, Harvest Fresh presented an investment opportunity based in Zimbabwe to produce frozen French fries as a supplier to Yum brands, owner of the KFC franchise. At a glance, an investment deal in Zimbabwe would not be attractive to many international investors given the economic and political instability of the country. In this type of situation, a local partner with skin in the game is critical. At a second look, the inside information brought by the local partner regarding the high regional demand for the final product and certifications in place for a major buyer, the opportunity looks increasingly viable.

Lesson 15: Investing in smallholder livelihoods can dramatically increase the sustainability of supply chains that rely on smallholder production.

Investing in smallholders is not just a matter of facilitating finance and connecting them to markets. In order to strengthen financial and technical assistance investments in smallholders, an investment in the livelihoods of farmers needs to be seen as equally important. With smallholder lending on the rise, though still nowhere close to meeting demand, we will need to come up with creative solutions to begin investing in a holistic approach to improving smallholder productivity.

According to Dalberg Global Development Advisors, demand for smallholder lending is US$300 billion (excluding China), compared to a current supply of US$9 billion[12]. This enormous gap inhibits the necessary investment on the part of smallholders to adopt better farming practices and expand production. In turn, this lack of investment in production constrains the global supply of agricultural products, especially given the increasing demand for high quality, traceable goods. To address this supply gap, buyers occasionally finance smallholders directly as part of a package of services including inputs and technical assistance.

Mondelēz International, the world's largest chocolate company, established the cocoa sustainability program Cocoa Life in its six key origin countries (Ghana, Ivory Coast, Brazil, Indonesia, India and Dominican Republic), as an investment to transform the livelihoods of smallholder cocoa producers (See Box 6.3). Mondelēz International realizes that smallholder cocoa producers are a major determining factor for the success of the chocolate manufacturing business because of their ability to help the company to sustainably source cocoa as a critical raw material for the business. Therefore, Mondelēz International's investment in Cocoa Life is a bottom line effort that ensures the sustainability of the cocoa supply chain while also ensuring positive economic and social outcomes for the smallholder cocoa producers, in terms of poverty reduction and of their participation in leadership and decision-making processes.

According to CARE International, Voluntary Services Overseas (VSO) and World Vision, the implementing partners of Mondelēz in the Cocoa Life program in Ghana, there are four key domains of change that can positively affect the cocoa productivity of smallholders and the overall livelihoods of cocoa-producing communities: i) increasing sustainable income from cocoa; ii) managing environmental impacts; iii) empowering communities to plan for their own development, leading to better access to social services; (iv) promoting gender equality and enhancing youth engagement.

[12] Dalberg, *Catalyzing Smallholder Agricultural Finance*, 2013

Mondelēz International and its implementing partners are tracking the progress of Cocoa Life using a mix of social and economic indicators, which include: increases in cocoa productivity and net smallholder incomes, reduction of vulnerability to external shocks, elimination of child labor, strengthened systems to protect the environment, and a more active role for women and youth in terms of social and economic participation at farm, cooperative, community and household levels.

Box 6.3: Cocoa Life's Approach to Strengthening Cocoa Communities

The Cocoa Life program, led by Mondelēz International, is currently being implemented in Ghana (in partnership with CARE International, VSO and World Vision), Ivory Coast (in partnership with CARE International), India, Indonesia, Dominican Republic and Brazil with an investment of US$400 million committed over a ten-year period. Cocoa Life aims to sustainably source cocoa for the business by directly improving the livelihoods of more than 200,000 smallholder cocoa producers across the six participating countries and indirectly benefiting more than 1,000,000 cocoa-producing community members.

The Cocoa Life program focuses on five key pillars of intervention:

1. **Farming:** Provision of effective extension services and other forms of capacity building to enhance farmers' adoption of Good Agricultural Practices. This results in an increase in cocoa productivity and incomes for the smallholder cocoa farmers (efforts to date have succeeded in increasing yields from .404 to .488 metric tons/hectare corresponding to a 21% increase in incomes). Additional benefits derive from the support to cooperative formation and the Fairtrade certification process, leading to smallholders being able to sell their cocoa at a premium price.

2. **Community:** Working with communities to improve their planning capacities through the 'Community Action Plan' process, and to enhance access to social services (e.g. potable water, health and education). Community-level work also includes empowering women and promoting gender equality, for example through leadership, advocacy and business management training for women, and through their inclusion in capacity building activities at farm and cooperative levels.

3. **Additional livelihoods:** Providing business management and technical skills training to support farmers and community members to increase incomes from an appropriate combination of viable on-farm and off-farm activities to complement cocoa farming.

4. **Youth:** Working to eliminate child labor (efforts to date have led to 90% of children in Cocoa Life communities staying in schools) and inspiring youth to take up cocoa farming as a viable business when they reach working age.

5. **Environment:** Ensuring the protection of the landscape in which cocoa is grown to maintain the eco-system and provide a viable environment and farming land for future generations. This is done through sustainable cocoa production practices and teaching communities how to manage natural resources and how to engage with their local governments on crucial environmental issues.

This increasingly close buyer-seller relationship between smallholders and major agribusinesses should be seen as an opportunity for lenders to step in and provide financing in partnership with the buyer. Given the social returns of improving smallholder production, impact investors are especially well placed for expanding their lending via partnerships with buyers in growing agricultural value chains.

As an example, AZMJ is working with ECOM Agroindustrials to connect an impact investor to their farmer finance program. Given that ECOM has an already established loan dissemination and collection system, it is envisioned that the investor would use a phased in approach to replace ECOM's capital with their own while allowing ECOM to maintain dissemination and collection. This type of program can create a win-win, reducing the cost of doing business for the investor and the opportunity cost of tying up capital for the agribusiness.

Lesson 16: Preparing smallholders for private sector investment is as important as preparing investors to invest in smallholder production.

Though it is important to start with the market when developing opportunities for smallholders, it is equally important to prepare smallholders to take advantage of market opportunities. Based on its experience with the Coastal Rural Support Programme in Tanzania, the Aga Khan Foundation has developed the following tactics for preparing smallholders in the rice and sesame value chains:

1. Transform fragmented smallholder production into aggregated production centers ready to link to markets.
2. Build private sector awareness of opportunities to connect with smallholder production centers.
3. Incentivize input suppliers to provide services to smallholders.
4. Entice buyers to do business with smallholders.
5. Incentivize support service providers to work with smallholders.
6. Prepare an enabling environment conducive to doing business with smallholders.
7. Integrate agriculture production and market development teams for continued smallholder support.

By working simultaneously with smallholders and buyers, there is a greater chance of success in connecting smallholder production to markets; there is also a greater chance that smallholders will take ownership of their production centers and lead further market development

VII. Facilitating Positive Behavioral Changes

Agricultural markets and consumer preferences are forever changing, resulting in new opportunities and challenges. Encouraging farmers and agribusinesses to change behaviors, adapt new technologies or practices takes time, investment and understanding. Below are some of the core lessons learned related to facilitating positive behavioral changes.

Lesson 17: It is important to listen to and understand the needs of the target audience

A basic tenet of any good sales strategy is to listen to and understand your client. So, it is not surprising that in order to "sell" people on the value of new behaviors, one must begin by listening to understand where they are coming from and why they apply certain practices, before trying to convince them to change behaviors. As Julianne Kayonga, Country Manager for Starbucks' Farmer Support Center in Rwanda explains, "It is a two way street! One must listen and understand the local communities first, before trying to influence their behavior….It takes time to gain the trust of smallholders….but Starbucks is committed to staying in Rwanda to make a difference in farmer livelihoods!" Box 7.1 describes how Starbucks is working with coffee farmers to ensure sustainable practices in Rwanda.

Box 7.1: Starbucks' Focal Groups Help Them Understand Coffee Farmers in Rwanda

Starbucks' Farmer Support Center's major focus is to increase coffee yield and quality, thus enabling farmers to increase household income and become self-sustaining. Conventional farming practices lead to poor production and quality. The Center equips farmers with best agricultural practices by providing them technology information to transfer and ensure long term availability of sustainably produced quality Arabica coffee. The Center also builds coffee farmers' capacity to meet sustainability requirements of processors and exporters through efficient implementation of Coffee and Farmer Equity (C.A.F.E.) Practice standards. To collect input, Starbucks organizes focal groups to understand the farmers' interests, concerns and limitations. Many of the farmers have never even tasted their own coffee, so Starbucks works with them to understand the various uses and preferences among coffee buyers and to understand what is required of specialty coffee markets and how they would need to adjust practices to be able to benefit from higher premiums associated with specialty coffees. To date, Starbucks has provided technical assistance and training impacting about 40,000 farmers in Rwanda, without requiring that they sell to Starbucks. While the Starbucks Farmer Support Center does not facilitate access to finance for farmers, they have helped many develop business plans that show the market opportunity, which can help to convince local financial institutions to lend. For Starbucks, the demonstration effect is often the most powerful in inciting behavior changes, when one farmer sees that his neighbor's farm is doing better, he/she is more inclined to make changes.

Lesson 18: Youth are receptive to trying new behaviors, techniques and technologies

When change is needed, targeting the next generation's workforce is often the most effective way to instill positive behavioral changes. As many African countries place a higher value on age and wisdom, extra efforts are needed to encourage youth to share their ideas and perspectives. "To give them a voice," explains Yariv Kedar, Managing Director of Sustainable Agribusiness in Africa for the Balton Group, the Balton Group's affiliate in Kenya, Amiran is working hard to convince youth of the value of farming as a business. Once convinced, youth become an effective sales force to the next generation of farmers. For example, Box 7.2 explains how Amiran uses youth promoters to help sell its greenhouses and drip irrigation systems.

Box 7.2: Amiran's Approach to Engage Youth to Adopt Modern Agricultural Technologies in Kenya

Amiran is a leading supplier of inputs and technologies for improved horticultural and floricultural development in Kenya and East Africa. From Amiran's experience, youth are more open minded to adopt new ideas and technologies than older, more experienced farmers. Amiran has several ways in which it introduces change in countries, to transform subsistence farming into sustainable farming, by introducing its products and services to youth. First, Amiran works to attract youth to work in agriculture by using slogans, such as "Farming is cool," and very popular Rap Artist, Juliani, to promote their marketing campaign. In addition, Amiran has adapted its marketing strategies to be more "youth friendly" by working through youth groups and offering them a drip irrigation "foundation kit" for an open field at an affordable, discounted price (equivalent to US$180), in exchange for the group's assistance in demonstrating the value and promoting the package to others. Amiran's Farmer Kits are unique in that they offer a holistic package, including high quality hybrid seeds, specialized fertilizers, water tank and other inputs, as well as high quality gravity drip irrigation systems (from Netafim) and technical assistance and support from local agronomists to ensure results. Amiran's formula for success is built on three key pillars: 1) knowledge of inputs use and markets; 2) know how (i.e. technical skills how to implement throughout the season) and 3) high quality inputs. Amiran has also made special efforts to facilitate access to finance for youth by providing loans to groups and individuals, through the "Youth Development Fund" to purchase Amiran's high quality "Kits" on good borrowing terms.

Lesson 19: Gender awareness and integration should be reinforced at all levels of the community

Moges Gebremedhin, Regional Behavior Change Communications Advisor with Danya International explained how his organization has worked to change behaviors and attitudes in many African countries and the importance of gender integration (e.g., women's participation and/or leadership in mixed groups) to ensure maximum development results (see Box 7.3). Julianne Kayonga of Starbucks' Farmer Support Center explained that 75% of coffee work is done by women, but men do the selling and therefore have better access to the money, which they "sometimes spend carelessly." While Starbucks cannot impose specific strategies, it does encourage gender integration at the wet mills and reinforces women's participation through its trainings and best coffee practices.

Box 7.3: Danya International's Approach to Gender Integration

Danya International is a communications company that helps public and private sector clients to develop research-based tools and campaigns that communicate clear, concise and effective messages across a variety of media forms. To engage women and to encourage their participation in development projects, Danya has found its three pronged approach to be most effective:

1. **Get to know the target group and the influencers.** To encourage positive behavior changes, one must first understand the various perspectives of the target audiences and those who influence them and adapt the message and the medium. For example, women often need to be reassured that their participation in meetings is important, their opinions and ideas have values and they should make attendance a priority for the benefit of their family and community.

2. **Suggest "doable" actions for both the target group and influencers.** To support active female participation Danya developed messages directed at women (e.g., make the time to attend the meeting with your husband), men (e.g., support your wife or daughter's participation), and group leaders, (e.g., encourage women to speak up and share at meetings).

3. **Seek community-level support.** Getting buy-in from local community leaders or religious figures can help communities to foster desired behaviors. Danya has developed marketing materials that promote supportive messages to the community.

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6. **Seek community-level support.** Getting buy-in from local community leaders or religious figures can help communities to foster desired behaviors. Danya has developed marketing materials that promote supportive messages to the community.

Lesson 20: Behavior change is not only needed in terms of smallholder farmers. All businesses need to operate as "social enterprises," keeping in mind the impact on local people, communities and the environment.

Farmers should seek to work with private sector partners that are willing to make a long-term commitment and transparently share market information and prices. VegPro is a great example of a business that is willing to make a long-term commitment to investing in smallholders while building their capacity and increasing their incomes. (See Box 7.4 on VegPro)

Box 7.4: VegPro Maintains a Long-term Perspective on Smallholder Relations

Dipesh Devraj of VegPro Group described his dilemma, when he received a phone call on Christmas Eve in 2012, informing him of the implications of European Union's regulation no. 1235/2012.This was an amendment to the high risk list (European commission No. 669/2009) which was to be effective as of January 1, 2013.

Regulation (EC) N0. 699/2009 applies an increased level of official controls on imports of certain feed and food of non-animal origin leading to reduced or no use of pesticide commonly used by smallholders in Kenya. Instead of cutting their ties with smallholders, as most vegetable exporters did, VegPro took the long-term view and maintained their relationships with its 1700 smallholders. Despite VegPro's inability to export many of the smallholder products (snap peas, snow peas, garden peas and garlic), VegPro purchased them and sold them. Then they invested substantial resources into training smallholders on how to meet the phyto-sanitary standards required by EU Regulations. Since VegPro was proactive on food safety and committed to working with smallholders (as one of its sustainability pillars), it did not abandon its smallholders when most other exporters walked away. As a result, VegPro has been able to maintain its reputation and relationships with smallholders, while continuing to export to the EU with no interceptions from the regulators to date. VegPro is also piloting the use of SMS technology to transparently communicate relevant information and prices to its farmers, which has already helped smallholders to prepare for heavy rains and a caterpillar outbreak. With support from USAID/Kenya's KHCP project, VegPro was able to help 800 pea farmers enhance productivity, reduce costs and comply with GLOBALGAP standards, for total sales of 1,712.3 tons of peas, yielding farmers US$1,117,127 in 2012.

Lesson 21: Farmers need to understand the value of making "investments" in their business

Building on relationships of trust, encouragement is often needed to convince farmers to manage their farm as a business. As a business decision, we often need to convince them that the long-term benefits of investing in new technology is worth it. Many low income people in Africa are extremely careful with their money, often choosing the lower cost item whenever possible. When it comes to investing in a business, however, the lowest cost is not necessarily the best "value for their money." For example, AZMJ is working in partnership with Amiran and VegPro to promote the use of Netafim's drip irrigation systems. Since Netafim has a patent on its unique technology, which helps their irrigation systems to avoid blockages and last up to 10 years, it is more expensive than many of the cheaper alternatives that tend to last only a couple years. AZMJ has assisted Amiran in developing marketing materials that demonstrate the long-term value of purchasing Netafim's drip irrigation systems, which can be made financially accessible through longer-term finance. By working with K-Rep Bank and Family Bank in Kenya, AZMJ has already helped to facilitate access to finance for some of VegPro's smallholder pea farmers, which was based on a simple cash flow model.

VIII. Moving Forward

At each Cracking the Nut learning event, we uncover additional issues that need to be addressed to ensure that we are considering all angles and concerns related rural and agricultural development. As we become more aware of the need for public private partnerships to work collectively to overcome obstacles, three additional areas merit further consideration.

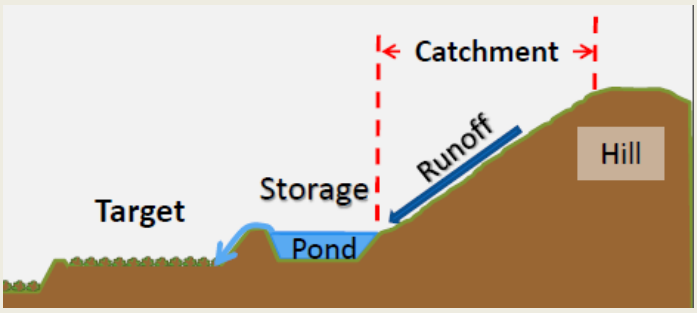
1. **Prepare for the impacts of climate change on rural and agricultural development.** According to a senior official at the Asian Development Bank, "For many developing countries…climate change issues are essentially development issues." If left unaddressed, we can expect wet areas to become wetter, dry areas dryer, more intense and unpredictable weather events, which will have an impact on the survival of a variety of species, including humans. Typhoon Haiyan, which recently hit the Philippines is a grim example of how climate change can have a huge economic, political and social costs to a country (estimated at US$800 million according to the Philippines' Disaster Management Bureau). Nonetheless, there are things we can do now to mitigate the negative impacts of climate change, before it is too late. What is needed is "better economic growth and resilience, improved infrastructure and connectivity, enhanced regional trade and integration, all of which would work toward increasing the region's defense against climate change."[13] As Milton Funes of Global Communities rightly pointed out, at Cracking the Nut Africa, we need more discussions about "adaptation," which implies the need to anticipate the adverse effects of climate change and to take appropriate action to prevent or minimize the damage they can cause, or take advantage of opportunities that might arise. He offered some examples of adaptation measures:

   - Using scarce water resources more efficiently
   - Adapting building codes to future climate conditions and extreme weather events
   - Developing drought-tolerant crops
   - Choosing tree species and forestry practices less vulnerable to storms and fires

   While index-based crop insurance is increasingly suggested as a tool to mitigate risks, the reality is that climate change is likely to drive up the prices of that coverage and increase the risks associated with agricultural finance. For example, when a couple of cyclones hit India in 2013, Indian insurance agencies reported loss ratios near 100 per cent, where heavy rainfall resulted in extensive damage to crops, including rice paddy and seasonal vegetables. To help mitigate the risks of catastrophic losses bankrupting the system, a global re-insurance system needs to be established.

[13] "Climate Change in Asia-Pacific: Costs and Solutions," by Lean Alfred Santos on Devex.com, Dec. 3, 2013.

Box 8.1: Global Communities Water Harvesting Project in Honduras



With climate change, Southern Honduras began to experience disruptions and alterations of its hydrologic cycle, with shorter rainy seasons and occasional flooding during the two months of high precipitation, followed by long dry periods and recurrent droughts. These climatic changes were gradually resulting in degradation of vegetation and soil erosion, and increasing the risks associated with agriculture and agricultural investments. In response, Global Communities proposed a multi-stakeholder solution, which was to develop an integrated production system based on the effective use of water runoff. The project was funded by the Millennium Challenge Corporation, with support from the Minister of Agriculture and local municipalities, and eventually attracted support from the private sector (Walmart Foundation) to generate women led agro-processing opportunities from the harvested production. The team began with a study to assess the physical, social, financial and economic viability of the proposed solution. With this input, they were able to design and construct an appropriate system of reservoirs and water distribution systems, including a catchment area (depicted in graphic) and the use of water boards and drip irrigation systems by local producers. By the end of the project in 2010, the following positive impacts were identified:

Economic	Environmental	Societal
Productivity increased by up to 200% in three cycles per year	Micro-watersheds developed	Water boards functioning
Small farmers' incomes increased	Reduced risks associated with soil erosion and flooding	Producers trained; technical capacity increased
Jobs were created	Increased water storage capacity	Improved nutrition and food security
Crops were diversified; and wholesaler contracts signed (i.e. Walmart)	Reforestation of watershed	Improved and equitable access to water
Access to finance facilitated	Replenished ground water and restored hydrological balance	Reduced migration from rural to urban areas

2. **Need for large scale investments in infrastructure** to support market outreach to rural and agricultural areas. Given the severity of the impending problems related to massive population growth, food insecurity and climate change, the development community needs to make large scale investments in infrastructure through public private partnerships and large scale finance, including the use of public support to entice local and international investors to purchase bonds and make long-term equity investments that will create a platform from which the rural poor can build sustainable livelihoods and markets. See Box 8.1 for an example of Global Communities' infrastructure project that resulted in positive environmental, economic and social impacts, for which Global Communities was awarded the Climate Change Adaptation Award at the 6th World Water Forum in Marseille, France in 2012.

3. **Cost-effective approaches to monitoring and evaluating** results of PPPs, placing a greater emphasis on the private sector's needs for monitoring indicators, such as market growth, increased sales, and social impacts on local communities. A common disconnect between public and private sector partners is the desire on the part of the donor or government to show improvements in smallholder income and food security. These data can be costly to collect and therefore the private sector is less inclined to invest in such a database unless it can be linked to a specific commercial interest. Vanessa Adams of ACDI/VOCA argues that we need more "real time monitoring and evaluation; to leverage private sector dashboard type" mechanisms. If there are too many indicators used or the information is collected too late, it is not analyzed and used in a proper time frame. Financial institutions often collect income and cash flow data on clients and so can facilitate access to improvements in income among repeat clients more easily than other private sector partners. If we are to support more public private partnerships, we will need to look for creative ways to cost-effectively collect impact data and use proxies as indicators of improved food security. Fundación Paraguaya developed its Poverty Stoplight (see Box 8.2 for details) as a cost effective way to measure the impact of their microcredit program on their clients. Using a tablet, loan officers assist their clients in completing a survey that allows them to measure their own progress out of poverty as measured by a set of indicators specific to their region. Fundación Paraguaya has utilized the Poverty Stoplight simultaneously alongside more traditional rigorous evaluations and found matching results. Fundación Paraguaya is now working with AZMJ to market the system as a cost effective evaluation tool for both public and private development initiatives.

Box 8.2: Poverty Stoplight

Fundación Paraguaya developed its Poverty Stoplight as a cost effective way to monitor the social impact of their microfinance program. With an easy to use pictorial survey, clients are able to measure their own progress from Extreme Poverty (red light), Poverty (yellow light) and Out of Poverty (green light). The survey is customized to the reality of the target population. For example, one question used in the survey for Paraguay indicates client access to clean water, with a red light showing access to water being over a mile away from the home, yellow light within a mile and green light indicating access in the home. As a cost effective evaluation tool that has proven to be a reliable proxy for rigorous evaluations, the Poverty Stoplight has a lot of potential value for development programs, especially programs led by private sector actors looking to expand markets while tracking social impact.

With the Millennium Development Goals expiring in 2015, European Commission President, Jose Manuel Durao Barroso, states that much work remains to be done to provide a decent life for all in the future. He explains that "Extreme poverty is also a source of conflict, pandemics, illegal migration and extremism … Further down the line, it will be more effective to address the root causes than the symptoms." "We strongly believe that in a post-2015 era, poverty eradication and sustainable development cannot be considered as two separate things. They are really two sides of the same coin – poverty cannot be eradicated if we do not tackle the challenges posed by global environmental degradation at the same time." As the world becomes more complex and interconnected, we will need to work hard to leverage all the resources of the public and private sectors as well as civil society, while ensuring the full participation of women and youth in designing the course of the future. These are some of the topics we hope to shed light on at the next Cracking the Nut. We hope you will join us!

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