This report includes: 1) a landscape analysis of actors and market-based approaches to agricultural development in East Africa, 2) a SWOT analysis of BRAC Uganda’s agricultural work within that landscape, and 3) a cross-pollination of learning from BRAC’s new LEAD project in Tanzania, which is an M4P, or “making markets work for the poor,” project.
# TABLE OF CONTENTS

Acronym List .................................................................................................................................................. i
Forward ............................................................................................................................................................ ii
Executive Summary .......................................................................................................................................... iii
Introduction ..................................................................................................................................................... 1
Part I: Background, Research Design, and Methodology ........................................................................... 1
  Background ................................................................................................................................................ 1
    BRAC Uganda and Tanzania ..................................................................................................................... 1
    Uganda’s Agricultural Markets .................................................................................................................. 2
  Research Purpose ........................................................................................................................................ 3
  Research Questions .................................................................................................................................... 3
  Data Collection Methods ............................................................................................................................ 4
  Limitations .................................................................................................................................................. 4
  Data Analysis .............................................................................................................................................. 5
Part II: Findings ............................................................................................................................................. 5
  Landscape of Actors and Approaches ........................................................................................................ 5
  M4P Theory and Practice .............................................................................................................................. 6
  Inputs ......................................................................................................................................................... 8
  Agronomic Practices ................................................................................................................................. 11
  Agricultural Finance ................................................................................................................................. 12
  Farmer Groups ........................................................................................................................................ 14
  Postharvest ............................................................................................................................................. 17
  Partnerships .......................................................................................................................................... 19
  The Role of Social Enterprises .................................................................................................................. 20
  Conceptualizing Sustainability, Resilience, and ROI .................................................................................. 22
  Monitoring, Evaluation, and Learning ....................................................................................................... 23
BRAC Uganda SWOT Analysis ..................................................................................................................... 24
  Strengths .................................................................................................................................................. 24
  Weaknesses .......................................................................................................................................... 25
  Opportunities ........................................................................................................................................ 26
  Threats ..................................................................................................................................................... 27
  Other Considerations ................................................................................................................................ 28
BRAC Tanzania Cross-Pollination .................................................................................................................. 29
Conclusion ..................................................................................................................................................... 31
Works Cited .................................................................................................................................................. 32
Volume of Annexes ...................................................................................................................................... 36
  Annex A: Map of Uganda ............................................................................................................................ 36
  Annex B: Research Questions Matrix ........................................................................................................ 37
  Annex C: Landscape of Actors Matrix ........................................................................................................ 39
  Annex D: Data Collection Instruments ...................................................................................................... 44
  Desk Interviews ....................................................................................................................................... 44
  Uganda and Tanzania Interviews .............................................................................................................. 46
  Annex E: Interviewee List ........................................................................................................................... 50
# Acronym List

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>CAP</td>
<td>Community Agriculture Promoter</td>
</tr>
<tr>
<td>DFID</td>
<td>United Kingdom’s Department for International Development</td>
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<tr>
<td>FAO</td>
<td>United Nations Food and Agriculture Organization</td>
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<tr>
<td>GF</td>
<td>General Farmer</td>
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<tr>
<td>GOU</td>
<td>Government of Uganda</td>
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<tr>
<td>GWU</td>
<td>George Washington University</td>
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<tr>
<td>ICT</td>
<td>Information and communications technology</td>
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<tr>
<td>iDE</td>
<td>International Development Enterprise</td>
</tr>
<tr>
<td>IFPRI</td>
<td>International Food Policy Research Institute</td>
</tr>
<tr>
<td>KMAP</td>
<td>Kenya Market Assistance Programme</td>
</tr>
<tr>
<td>LEAD</td>
<td>Livelihood Enhancement through Agricultural Development</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>M4P</td>
<td>Making Markets Work for the Poor</td>
</tr>
<tr>
<td>MADFA</td>
<td>Masindi District Farmers’ Association</td>
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<tr>
<td>MF</td>
<td>Model Farmer</td>
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<tr>
<td>MFI</td>
<td>Microfinance Institution</td>
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<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
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<tr>
<td>NAADS</td>
<td>National Agricultural Advisory Services</td>
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<tr>
<td>NaCCRI</td>
<td>National Crops Resources Research Institute</td>
</tr>
<tr>
<td>NARO</td>
<td>National Agriculture Research Organization</td>
</tr>
<tr>
<td>NGO</td>
<td>Nongovernmental Organization</td>
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<tr>
<td>OPV</td>
<td>Open-pollinated Variety</td>
</tr>
<tr>
<td>PPP</td>
<td>Public-private Partnership</td>
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<tr>
<td>RCT</td>
<td>Randomized Control Trial</td>
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<tr>
<td>ROI</td>
<td>Return on Investment</td>
</tr>
<tr>
<td>ROSCA</td>
<td>Rotating Savings and Credit Association</td>
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<tr>
<td>SACCO</td>
<td>Savings and Credit Cooperative</td>
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<tr>
<td>SDC</td>
<td>Swiss Agency for Development and Cooperation</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strengths, Weaknesses, Opportunities, and Threats</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>VCA</td>
<td>Value Chain Approach</td>
</tr>
<tr>
<td>VSLA</td>
<td>Village Savings and Lending Association</td>
</tr>
<tr>
<td>WFP</td>
<td>World Food Programme</td>
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<tr>
<td>WRS</td>
<td>Warehouse Receipt Systems</td>
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Forward

This research project was conducted by a four-person team of graduate students in the George Washington University’s Elliott School of International Affairs in Washington, DC in conjunction with BRAC USA. The GWU Team completed this project as part of the university’s capstone program, in which student groups undertake a short-term consultancy with an international development organization to complete a jointly designed project.

Our team initially reached out to BRAC because we were impressed by BRAC’s work in Bangladesh and eager to learn more about how BRAC applies its programming model in Africa. BRAC responded with interest in learning more about the work of other development implementers operating in East Africa; BRAC believed our team would be well positioned to help the organization broaden BRAC’s awareness and understanding of the various market-based approaches to agriculture development implemented in the region. In addition, BRAC believed our research project could be a valuable mechanism for analyzing its Uganda agricultural program within this broader development landscape. Finally, BRAC wished to include a cross-pollination of learning from its new, “Making Markets Work for the Poor” (M4P) project in Tanzania, the Livelihood Enhancement through Agricultural Development (LEAD) project. The deliverable resulting from these shared research interests consists of a landscape analysis; analysis of BRAC Uganda’s strengths, weaknesses, opportunities, and threats (SWOT); and cross-pollination learning from BRAC Tanzania.

The GWU Team is extremely grateful for the support of the many individuals at BRAC who made this research possible. We would like to first thank Manisha Bhinge and Rod Dubitsky of BRAC USA as well as Mr. A. Saleque of BRAC International for their willingness to collaborate with us. The time they committed to establishing a joint vision for this research, providing helpful technical direction, and coordinating with BRAC management across the organization was essential to the successful completion of this project. We also would like to thank Zoe So of BRAC USA for her assistance during the Tanzania- and Uganda-based portions of our research.

In addition, this research would not have been possible without the support of the BRAC Uganda and BRAC Tanzania country teams, including the receptivity of Country Representatives Abul Kashem Mozumder (Uganda) and Rakibul Bari Khan (Tanzania) to the GWU Team’s research proposal. In Uganda, both Mr. Mohammed Mozammel Huq and Mr. Hannan Ali invested a great deal of time and energy helping us accomplish our research objectives, for which we are very thankful. We also greatly appreciate the invaluable assistance provided to us in Tanzania by Mr. Hem Chandro Roy and Mr. Mahfuz Ashraf, as well as the BRAC staff we met in Dar Es Salaam, Ruaha, and Dodoma. We extend our thanks to both country teams for their hospitality, openness, and constant support during our fieldwork.

Finally, we wish to thank the wide range of actors, including donors and implementers, who agreed to be interviewed as part of our desk research. Our team cannot overemphasize the value of these interviewees’ insights, observations, opinions, and candor. The knowledge they shared with us is an integral part of the data our team used to develop the findings and recommendations outlined in this report.
Executive Summary

Within market-based approaches to agricultural development, donors and implementers have long worked to identify the methods that will achieve the greatest impact. Although variations in approaches abound, most focus on facilitating new, productive linkages between agricultural market actors. These approaches typically emphasize impact, scalability, sustainability, value for money, and return on investment. Within this context, BRAC has launched the Livelihood Enhancement through Agricultural Development (LEAD) program in Tanzania, which is a “Making Markets Work for the Poor” (M4P) project funded by the United Kingdom’s Department for International Development (DFID). Broadly, M4P has been defined as “an approach to developing market systems that benefit poor people, offering them the capacities and opportunities to enhance their lives.”¹ This new LEAD venture provides the opportunity to compare how BRAC’s M4P project in Tanzania compares to other BRAC agricultural development projects in East Africa, including its extension work and seed social enterprise operations in Uganda. This comparison is further informed by learning from other actors and approaches within market-based agricultural development projects in the region.

The research for this report is an effort to help BRAC refine its current approach, not only through comparison of its two country programs, but also by comparing BRAC’s work to that of others. Our team began with this principal question: what does the landscape of actors and approaches in agricultural development in East Africa look like? Within this question, we paid special attention to M4P theory and practice. We then asked: within this landscape, what are the strengths, weaknesses, opportunities, and threats (SWOT) related to BRAC’s approach in Uganda? Our team supplemented this question with a cross-pollination of learning from BRAC’s LEAD M4P project in Tanzania. As LEAD is young, comparisons of results across the two country programs are premature. However, the contrast between LEAD Tanzania and BRAC Uganda did produce new insights and highlight important questions for BRAC to consider as it continues to design and implement market-based projects throughout Africa.

The landscape analysis portion of this report begins with an overview of Uganda’s Agricultural Markets, then moves to an exploration of M4P theory and practice that describes core concepts such as market facilitation, “crowding in,” adaptability, scalability, and sustainability. Agricultural Inputs are discussed within the context of a Ugandan market that is severely constrained by the presence of counterfeit inputs. Yet this underdeveloped market contains opportunities for BRAC to expand its social enterprise efforts to meet input demand with high quality, affordable inputs. Inputs will have a limited impact, however, without the application of appropriate Agronomic Practices, which can be further integrated into BRAC Uganda’s extension efforts with smallholder farmers.

This report’s discussion of Agricultural Finance focuses on various microfinance models that have worked effectively with smallholder farmers and provide potential opportunities for BRAC. A section on Farmer Groups presents the benefits and challenges of working with these groups. It also compares the

benefits of informal and formal group organization as well as encourages BRAC to consider organizing groups in Uganda that mirror its LEAD farmer groups in Tanzania. The Postharvest section focuses on factors that include storage, processing and value addition. BRAC does not engage in postharvest activities in Uganda, but postharvest is an important area into which BRAC could expand its operations.

A private sector engagement and Partnerships section provides BRAC with suggestions on how to engage in partnerships as a way of spurring innovation and amplifying impact. A consideration of the role of Social Enterprise explores the unique opportunities created by “double bottom line” ventures but also flags the tensions created when an organization participates in both market facilitation and social enterprise work. A brief discussion of Conceptualizing Sustainability, Resilience, and ROI explains the various ways these terms are understood and how the terms are relevant to BRAC. The final section emphasizes the complexities of Monitoring, Evaluation, and Learning within an M4P context and describes how others have approached these processes.

The BRAC Uganda SWOT Analysis describes strengths, weaknesses, opportunities, and threats associated with BRAC’s agriculture program in Uganda. Strengths include BRAC’s broad geographic scope, deep community connections, holistic view, passionate staff, empowerment of women, multi-pronged approach to extension (and extension’s associated spillover effects), social enterprise component, and strong brand value. Three major weaknesses were identified in BRAC Uganda’s agriculture programming: 1) limited creation of demand for surplus harvest and lack of involvement in postharvest activities, 2) staff attrition, or high turnover, and 3) the presence of a slow-moving bureaucracy, which is a concern staff raised concerning the time it takes for a field-level idea to rise up through the appropriate channels, receive a decision, and then come back for implementation, especially if BRAC International must weigh in. Some of the many opportunities for BRAC Uganda include expanding into additional seed varieties, small machinery for mechanization, agricultural finance, and water management, as well as promoting farmer groups, engaging in postharvest activities, encouraging greater involvement of men, and developing more robust pilots. Key threats to BRAC Uganda include climate change and the agricultural handouts used by other development organizations. The Other Considerations section highlights salient points that did not fit within the SWOT but are relevant to BRAC’s programming. These considerations include BRAC’s unique hybrid model (in which BRAC operates simultaneously as a donor-funded NGO and social enterprise), the sustainability of the CAP and model farmer model, youth entrepreneurship, and information and communications technology. The findings for this report conclude with a discussion of BRAC’s new LEAD project in Tanzania and a Cross-Pollination of learning between it and the BRAC Uganda agricultural program.
Introduction

Uganda’s agriculture sector accounts for 24.1% of the country’s gross domestic product and employs over 66% of the workforce.² Twenty-seven percent of rural Ugandans, the equivalent of 8.9 million people, live below the rural poverty line.³ Clearly agriculture is a key sector for pro-poor development. Yet smallholder farmers face a number of constraints: lack of effective government regulation and support, limited smallholder-friendly finance options, meager infrastructure, poor extension services, informal land rights, few postharvest opportunities, limited market access, and limited access to quality inputs. It is within this context that BRAC Uganda operates. Although BRAC is already doing excellent work in this environment, the organization can still learn from the successes and challenges faced by other actors working in Uganda and East Africa more broadly.

This report is organized in two parts. Part I provides key background and explains this project’s research design and methodology. Part II explains our team’s research findings and is divided into three sections. First, the landscape analysis synthesizes interviews with practitioners and thought leaders, interviews and observations in Tanzania and Uganda, and information from the current body of agricultural development literature to inform BRAC of new ideas and practical steps for pursuing those ideas. Second, the report further grounds these observations with a SWOT analysis of BRAC Uganda’s work with farmers and its seed social enterprise. Finally, the report concludes with cross-pollination learning from BRAC’s Livelihood Enhancement through Agricultural Development (LEAD) project in Tanzania.

Part I: Background, Research Design, and Methodology

The following section provides background information about BRAC’s programs in Uganda and Tanzania as well as outlines the research design and methodology underpinning this research project. It describes the overarching purpose of the research, the primary research questions that focused our team’s work, the data collection methods we employed, the limitations of our research, and the data analysis we used to produce findings and recommendations.

Background

BRAC Uganda and Tanzania

BRAC’s agricultural programs in Uganda and Tanzania were initiated in 2006.⁴ BRAC works with farmers in Uganda to help improve their productivity by encouraging them to improve upon traditional practices (by providing training and information), supplying high quality inputs, and introducing new technologies. At the community level, BRAC recruits self-employed, agriculture entrepreneurs (known as Community Agriculture Promoters, or CAPS) who build a business around supplying quality agricultural inputs to

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smallholder farmers in their community. In addition, BRAC recruits other community members to serve as Model Farmers (MFs) to train other local farmers, called General Farmers (GFs), through the use of demonstration plots. These efforts are complemented by a seed social enterprise located on BRAC’s farm in Nakaseke, which works with contract growers and local workers to produce and process improved maize and rice, then sells these seeds through CAPs and agrodealers.

BRAC Tanzania also utilizes CAPs, MFs, and GFs. But BRAC Tanzania’s newest LEAD project represents a shift in approach; LEAD adopts a “Making Markets Work for the Poor” (M4P) approach that places BRAC in the role of a facilitator. As a facilitator in the LEAD program—as distinguished from BRAC’s typical implementer role, in which BRAC assumes a more active role in the market—BRAC works to catalyze systemic agricultural market development by facilitating market linkages in addition to improving crop production. LEAD focuses on improving farmers’ agronomic practices and use of agricultural technologies, improving farmers’ access to markets and finance, and stimulating private investment in agricultural value chains. The project works through lead farmers, GFs, and MFs; unlike BRAC Tanzania’s other agriculture projects, LEAD does not have CAPS. In the LEAD project, BRAC does not provide inputs to GFs (and only provides small amounts of inputs to MFs and lead farmers) because, rather than focusing on input provision, LEAD is intended to connect farmers to input and output markets as well as to strengthen the organization of GFs into more formal farmer groups that will hopefully persist beyond the life of the project.

Uganda's Agricultural Markets

As this report focuses primarily on BRAC’s work in Uganda (with cross-pollination of learning from LEAD in Tanzania), it is important to broadly understand the agricultural markets of Uganda.

Uganda has three tiers of agricultural markets: rural trade centers, medium-sized town centers, and large urban markets located primarily in Kampala. This is also true for the maize sub-sector, one of the main focus areas for BRAC Uganda's agricultural projects and social enterprise. Over one million hectares of land in Uganda are under maize production and produce 2.4 million metric tons of maize. However, production fluctuates with changes in rainfall and has begun to stagnate. Maize is grown as a source of food and income primarily by smallholder farmers whose landholdings for maize production average 0.2-0.5 hectares. Subsistence farmers produce 75% of maize in Uganda. There is regional variation in maize production due to differences in geography and climate. According to the Uganda Bureau of Statistics, the eastern region of the country produces the highest output of maize—46.9% of the total production—followed by the western region (21.1%) and the northern region (12.9%). The leading maize-producing district is Iganga, followed by Mubende and Soroti (see Annex A for map).

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FAO and USAID estimate that the domestic market for maize is around 350,000–400,000 metric tons per year. Kampala is the main domestic market and accounts for about 50% of the formal maize trade. Domestic demand is driven by the need for bulk flour in schools, prisons, and hospitals. Maize is also used as animal feed. The export market for Ugandan maize is regional, existing in eastern and southern African countries such as Rwanda, the Democratic Republic of Congo, and South Sudan. Export of maize is estimated to be 200,000–250,000 metric tons per year and has been increasingly contributing to Uganda’s export earnings. However, a great deal of this cross-border trade is informal.

Some smallholder farmers sell directly to small-scale millers and wholesalers. Other smallholders sell their harvest to farm gate buyers—i.e., middlemen who purchase directly from producers and avoid paying transportation or other marketing costs—who then sell to agents, traders, or village markets in rural areas. The rural traders will usually bulk produce and take it to regional towns such as Iganga, Bugiri, and Sironko. Urban traders (at the district level) can then collect maize from these regional agents (or from farmers they have contracted). The urban traders then sell the maize to millers, processors, and trading institutions. Alternatively, the maize can be taken to Busia for export or sold to the World Food Program (WFP) under its Purchase for Progress (P4P) program. Some of the largest institutions in the maize value chain are the WFP, Uganda Grain Traders, the Masindi Seed and Grain Growers Association, and the Uganda National Farmers Federation.

Research Purpose
This research focuses on BRAC’s agricultural development projects in Uganda and is also supplemented with a cross-pollination of ideas gleaned from observations of BRAC’s new project in Tanzania, the LEAD initiative, which is grounded in an M4P approach. The purpose of this research is to analyze BRAC’s model for agricultural development in East Africa and benchmark it against other market systems approaches in the region to identify best practices and opportunities for improvement. Where appropriate, this research highlights lessons that are potentially applicable to other regions of Sub-Saharan Africa where BRAC currently operates or plans to work in the future.

Research Questions
To distill the most important aspects of these broad research goals, BRAC and the GWU Team developed two primary research questions:

- What does the landscape of market-based agricultural development projects in East Africa look like?
- What are the strengths, weaknesses, opportunities and threats for BRAC within this landscape?

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Throughout the course of the research, we also considered additional sub-questions (listed in Annex B) to further hone the scope of our inquiry.

**Data Collection Methods**

This research employed four phases of data collection. Phase 1 consisted of an initial background literature review of market systems approaches, other organizations working on projects related to market systems in East Africa, and specific interventions used in market-based approaches to agricultural development. The team identified reading materials through searches of relevant development industry knowledge-sharing forums, donor websites, implementing organization publications, and academic journals. BRAC USA shared additional documents for background reading.

Phase 2 included targeted desk research and semi-structured interviews with relevant thought leaders and implementers (either in person or, for those located outside of Washington, D.C., via Skype). During the targeted desk research, our team read in further detail about the topics identified as most relevant to the project’s research questions and to BRAC’s organizational interests within the selected research topic. The targeted desk research also covered sources recommended by those individuals the team interviewed during this second phase. Interviews were conducted during the period of January to mid-March 2014 and included conversations with representatives from 14 organizations (see Annex E for a list of organizations). To identify interviewees, our team began with a list of key individuals associated with the organizations identified during our background literature review. After holding an initial round of meetings with those who responded to the team’s request for an interview, we expanded our outreach to new individuals recommended by the recent interviewees. Over the course of the following two months, our team continued to use this referral sampling, or snowball sampling, technique to develop our base of potential interview contacts.

Field research constituted Phase 3 of data collection. During this phase, the team collected information from one-on-one interviews, focus groups, and observations in Uganda (from March 10-21), as well as through one week of similar Tanzania-based work (from March 10-14). In-country interviewees included BRAC beneficiaries, BRAC staff, development implementers, and other actors from the public and private sectors (see Annex E). As BRAC’s agricultural work in Uganda is more developed, it was the primary focus of the research, with BRAC’s new M4P project design in Tanzania providing an opportunity for a productive cross-pollination of learning.

Phase 4 occurred post-fieldwork. While the primary purpose of Phase 4 was to synthesize previous research into a final report, our team also used this phase for final data collection. We analyzed additional BRAC documents obtained during field research and conducted seven interviews with stakeholders who were not reachable or available during earlier phases. This final phase enabled our team to collect several additional data points that informed our final findings and recommendations.

**Limitations**

Our team carefully tailored the data collection efforts outlined above to include a diverse collection of key informants that reflects a range of actors (e.g., farmers, agrodealers, BRAC staff, development implementers, donors, government officials, etc.). However, as the number of interviews held with each
category of actor was not intended to create a statistically significant sample, the sample of interviewees cannot be considered fully representative. Lessons learned from these conversations, therefore, are informative but may not be broadly generalizable across actors. A second limitation of this research is that the relatively wide breadth of our research questions inherently limits the level of technical detail we are able to provide in our findings and recommendations. In addition, logistical and budgetary considerations resulted in BRAC staff (rather than independently hired support staff) aiding our team with translation, identifying site visit locations, and selecting beneficiaries and market actors to interview in Uganda and Tanzania. We very much appreciated this support and recognize that it was crucial in securing access to BRAC’s operations; at the same time, we are also aware that BRAC staff involvement may have shaped the responses of interviewees. Finally, although we encouraged interviewees to speak from their personal experience, we acknowledge that some of the information shared with us was second-hand information. Nonetheless, although time and resource constraints limit the completeness of our analysis, the information gathered through desk and field research ultimately yields a number of important insights that are relevant to BRAC’s work and useful for its consideration.

Data Analysis
To help ensure our interviews produced high-quality data, two team members participated in each interview whenever possible so that one person could facilitate the conversation while the other took detailed notes. Soon after the interview, both team members reviewed and edited the notes to ensure there were no discrepancies in the team members’ understanding, observations, or perceptions of the interview. After all interview notes were aggregated, each team member read the full set of notes to identify common themes, differing perspectives, and other connections among the multiple interviews.

All data and anecdotes from interviews used in this report are anonymous due to privacy considerations and therefore cannot be attributed to specific interviewees. We also chose to include in our report several themes emerging from our research that, while not directly related to the topics prioritized in our research questions, were noteworthy and likely of interest to BRAC or other development practitioners. Within each thematic area of the report, we also included relevant data from the literature review, as well as monitoring and evaluation (M&E), research, and auditing data from BRAC to generate more comprehensive findings.

Part II: Findings
Part II discusses the findings that emerged from our literature review, desk-based interviews, and field research. Findings are divided into three sections: a landscape analysis of the actors and approaches in East African agricultural development, a SWOT analysis of BRAC Uganda’s approach to agricultural development, and opportunities for cross-pollination of learning between BRAC’s Tanzania and Uganda programs.

Landscape of Actors and Approaches
This section outlines the landscape of actors and approaches our team encountered during the course of this research project. The information below comes from our literature review, interviews, and field observations. Formal citations denote material drawn from the literature review, while other references
to actors and approaches are drawn from interviews and observations. For more information about the actors and approaches referenced in this section, please refer to Annex C, which contains additional examples of various organizations’ work.

**M4P Theory and Practice**

The following section describes the M4P approach to agricultural development, in theory and in practice. This discussion is specifically relevant to BRAC Tanzania as it implements LEAD, a DFID-funded M4P project. However, M4P is also broadly relevant to BRAC beyond LEAD, as the lessons gleaned from M4P theory and practice are also applicable to other projects.

M4P is an approach to developing market systems that function more effectively, sustainably, and beneficially for the poor. These market systems encompass production, consumption, and labor markets. M4P literature describes markets as consisting of a core (the buyer and seller, such as an agrodealer and farmer), rules (in the form of policies and institutions that govern markets), and supporting functions (such as infrastructure, information, and related markets). The system of actors and forces in a market is complex, but changeable. The goal of this change is pro-poor development. Although some M4P projects offer the poor opportunities to enhance their lives directly through capacity building, other projects focus more on other actors or the overall environment in order to improve the conditions for pro-poor development. Key concepts within the M4P framework include:

- **Facilitation.** In this report, we use “implementer” to mean an actor who is executing development work, regardless of the approach; we use “facilitator” to refer to a specific type of development implementer that adheres to M4P concepts. In M4P, the development implementer is not a market actor, but rather a facilitator. A facilitator catalyzes new relationships between actors or improves the environment in which those actors interact so that the market benefits the poor.

- **Crowding In.** M4P facilitators should seek to “crowd in” other market actors by working to reduce barriers to market entry and increase incentives for new market entrants. Crowding in creates competition that increases innovation and improves both the quantity and quality of products and services utilized by the poor. In contrast, “crowding out” refers to engaging with a market system in a way that dis-incentivizes others from entering the market (e.g., subsidizing select businesses in such a way that others cannot compete).

- **Scalability and Sustainability.** When new relationships are successfully facilitated, the incentive structure should theoretically encourage market actors to “scale-up” their enterprises and continue these profitable relationships long after the M4P project has ended.

- **“Win-Win” System Improvements:** The economic benefits generated by M4P projects are not a zero sum game in which only one party benefits. Instead, M4P projects aim to generate “win-win” scenarios in which various actors benefit from the new economic relationships. When smallholder farmers, for example, increase the quantity and quality of their harvest, they benefit from economic gains, as do the buyers who can sell these new harvests for greater profit. This creates a virtuous cycle in which farmers are incentivized to produce more, traders are incentivized to buy more, and both parties benefit from the newly created markets.
• **Analysis.** At any stage of project design or implementation, analyzing the actors and forces involved in a given market (or a particular market failure) is essential. An M4P approach looks for the levers that, when pushed or pulled correctly, can catalyze change within the market system (e.g., through introduction of incentives, reduction of risk, or relaxing of constraints).

• **Adaptability.** Since markets can change rapidly and unpredictably, M4P emphasizes ongoing analysis and the ability to quickly shift programming as necessary. Experimentation through pilot testing is key, as pilots allow facilitators to identify the most effective strategies for generating behavior change and determining which interventions deserve scale-up.

• **Enabling environment.** M4P facilitation does not occur in a vacuum. Efforts to support farmers can be constrained by the environment in which farmers live and work, which is influenced by culture, information availability, public policy, laws, and infrastructure (from roads to radio networks to mobile phone coverage). Improving the enabling environment is a challenge for many implementers who are often constrained by funding, capacity, and political realities.

In interviews with M4P implementers and consultants, we learned that M4P facilitation is not simply something implementers either “do” or “do not do.” Multiple interviewees suggested that facilitation is more of a spectrum, with “purists,” who are extremely vigilant about limiting their interaction in markets on one end, and “pragmatists” who maintain a facilitative approach but are comfortable with some level of temporary subsidization or market involvement, on the other end. A pragmatist, for example, might argue that cost-sharing (or “buying down risk”) is needed to help agrodealers purchase new SMS-based marketing capabilities to reach smallholder farmers via mobile phones. However, across the spectrum, facilitators agree that giveaways of free inputs and services distort markets and are therefore counter-productive. Another spectrum within M4P thinking suggests that markets also exist along a continuum, where weaker, less developed market contexts exist on one side and more robust, well-developed market contexts on the other.

Building trust is an integral aspect of M4P facilitation, as trust is essential in successfully facilitating behavior change or new relationships. Repeatedly we heard that lack of trust is a major constraint in the building of new, productive market linkages. Two promising practices emerged from our conversations about trust: 1) as farmers trust other farmers they know, farmer-to-farmer communication is a productive mechanism for influencing behavior and 2) since farmers trust organizations—and staff of those organizations—whom they have come to know over time, hiring from the community and retaining well-liked staff becomes a priority in M4P work.

Critics of M4P, including Oxfam, warn that M4P projects often fail to adequately address important power dynamics in two key ways: first, facilitating the development of existing market systems can entrench existing power inequalities between groups, effectively marginalizing the most vulnerable; second, M4P projects (as currently implemented) often fail to actively transform power dynamics in a way that increases the agency of poor people, which prevents the poor from shaping and influencing how they interact with the market. Given these criticisms, it is important for facilitators to keep in mind the following: 1) when diagnosing markets and designing M4P interventions, seek the participation of poor stakeholders, 2) engage the poor in evaluative inquiry, and 3) when assessing a project, ask if the poor are more empowered and if the system within which they live and work is more fair and just.
BRAC Takeaways:

- It is important for BRAC to consider where on the M4P spectrum it wants to position its market-based approaches throughout Africa, keeping in mind that this position may be a strategic consideration that changes from one context to the next. If BRAC chooses pure facilitation over market participation, there will be trade-offs; relinquishing its role as a market actor could diminish purchasing power, economies of scale, and quality assurance.

- As the LEAD project progresses, BRAC will have an opportunity to evaluate its impact, scalability, sustainability, and return on investment (ROI) and can then compare those findings with similar metrics from its social enterprise work. BRAC will then be in a better position to decide whether facilitation, social enterprise, or a hybrid of both is the best approach for future work in Africa.

- Regardless of where on the spectrum it operates, BRAC can apply M4P tools (e.g., analysis of market forces or facilitation of new market linkages) to many of its market-based projects across Africa.

Inputs

Agricultural inputs were mentioned in most of our interviews, as timely access to affordable, quality inputs remains both a challenge and opportunity for smallholders. As inputs are a core component of BRAC’s extension and social enterprise work, this topic is particularly relevant to the organization.

Seeds and Seed Businesses

Improved seeds are paramount in helping a subsistence farmer generate a surplus that can eventually lead to commercial sales. Improved seed refers to seeds that have been bred for particular characteristics, and in this context refers to either open-pollinated variety (OPV) or hybrid seeds. OPV refers to seed that is pollinated naturally (rather than through a controlled process) and can be retained for future harvests with limited yield loss. Hybrid seed is a first generation seed produced from controlled cross-pollination of parent seeds that have specific desired characteristics (e.g., drought tolerance) and is much more expensive because cost of production is higher. It also cannot be retained for future harvests without rapid degradation of yield. Despite the extra cost of hybrid seeds, farmers who use them have the potential for much higher profit margins than those who use OPV. In a Nigeria study, hybrid maize farmers produced an average of 2,240.6 kg per hectare, while those using open pollinated varieties of maize averaged just 1,261.04 kg per hectare; moreover, the gross profit margin for the hybrid maize was almost double that of the open pollinated variety.

Although there is strong evidence that using improved seeds boosts yields, farmer uptake of such seeds is low. According to the Uganda Bureau of Statistics, the percentage of farmers using improved seeds

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12 Ibid.
13 Ibid.
has dropped from 18.8% (in 2009/2010) to 9.5% (in 2011/2012).\textsuperscript{15} According to the same set of statistics, this drop has been more severe for maize farmers, from 41% to 10% over the same period of time.\textsuperscript{16} Why is improved seed use down? Three reasons emerged from our research. First, the government and some development organizations encourage farmers to save a portion of the seeds that they harvest after planting improved seeds and then use (or sell or trade) those second generation seeds. One reason for giving this advice is that many farmers cannot afford additional improved seeds and, even if they could, the demand for improved seeds far outstrips market supply. Another reason a Ugandan maize farmer may not use improved seed is because, although improved seed does increase productivity, the marginal cost of the seed may exceed the marginal revenue increase the farmer receives from the subsequent harvest;\textsuperscript{17} in other words, the increase in profit is not high enough to outweigh the additional cost of improved seed.

A third reason for farmers’ decreased interest in improved seeds is the rampant fake seeds market in Uganda. In one example we witnessed, a can of low-priced collard greens seed was packaged with a counterfeit, high-priced East Africa Seed Company tomato seed label. As tomatoes demand a higher price than collards, the counterfeit seller makes a significant profit, and the (likely illiterate) farmer is stuck with a low-value crop. The Government of Uganda (GOU) supplies official certifications for seeds, but a great deal of seed cannot be officially certified because it is bought, sold, and traded in informal markets. As these fake inputs harm seed companies’ and agrodealers’ businesses, the private sector is looking for ways to limit their harmful impact. One method businesses use to deal with counterfeits is establishing their companies’ credibility through a “customer-centric” approach in which shop owners take time to educate their customers about input certifications and the best ways of using products. Other proposed efforts to help farmers distinguish real from fake products include counterfeit hotlines and SMS-based e-verification schemes. It remains unclear exactly where the counterfeiting happens in Uganda’s agriculture markets, but there is evidence that most counterfeiters operate in informal markets. Yet, the impact of their work spills over into the formal ones.

The formal seed market currently includes local companies such as Victoria Seeds, FICA, and NASECO, as well as larger regional companies like the East African Seed Company. We also met with the Masindi District Farmers Association (MADFA), which is a farmers’ cooperative (with a corresponding savings and loan association) that also runs a seed company. Due to its relationship with the cooperative, the Board of the MAFDA seed company includes farmers who are members of the cooperative, which allows buyers of the seed to have a voice in its pricing. Each of these actors is a competitor of BRAC’s seed social enterprise, yet repeatedly we heard that improved seed demand outstrips supply, and that there is room enough for all these actors in the Ugandan seed market.

\textsuperscript{16} Ibid.
\textsuperscript{17} Geoffrey Okoboi, “Of What Merit is Improved Inputs use in Uganda's Maize Productivity?” (paper presented at the AAAE Third Conference, Cape Town, South Africa, September 19-23, 2010).
Contract growers play a key role in the seed market as well. As seed companies, including BRAC’s social enterprise, expand to meet unmet demand, they will need to hire more contract growers. However, contract-growing schemes in Uganda are often plagued by lack of trust between seed companies and out-growers (such as when out-growers side-sell their harvest instead of meeting their contractual obligations or when seed companies do not buy in the quantity or at the price previously negotiated).

**Pesticides & Fertilizer**

In addition to improved seeds, the complimentary use of pesticides and fertilizers is necessary to improve yields. This is particularly important in Africa, where soil generally suffers from fertility challenges, acidity, and/or drainage challenges—a situation that has been exacerbated by decades’ worth of “nutrient mining” (taking nutrients from the soil through farming without replenishing those nutrients) and poor erosion control. In addition to poor soil fertility, African agriculture uses much less fertilizer than other regions of the world. From 2006-2008, South and East Asia, Southeast Asia, and Latin America averaged 129.4, 109.6, and 104.8 kg of fertilizer per hectare, respectively. Sub-Saharan Africa averaged just 7.1 kg. From 2011 to 2012, only 5.8% of maize farmers in Uganda used organic fertilizer (a 7.2% decrease from the previous year), and 3.1% used inorganic fertilizer (a 2.5% increase from the previous year). Possible reasons for low fertilizer use include low marginal returns when coupled with traditional (as opposed to improved) seeds, lack of access, high transportation costs, lack of credit, lack of farmer knowledge about correct usage, poor initial soil quality, and poor access to sufficient irrigation.

Pesticides are also important for Ugandan farmers yet infrequently used. In 2011-2012, only 8.4% of maize farmers in Uganda used pesticide. Pests are especially problematic for smallholder farmers who practice mono-cropping. Ugandan agronomists explained to us that the pervasive striga pest could deplete maize yields by up to 80%, which makes use of pesticides (or other forms of integrated pest management, such as pheromone traps or inter-cropping) critical.

We heard anecdotal evidence of widespread misuse of both pesticide and fertilizer products among smallholders. Some agrodealers told us how farmers may apply too much inorganic fertilizer directly to seeds, effectively killing the seeds. Farmers may also try to stretch out the inputs over time, to get “their money’s worth.” This practice is particularly dangerous with a pesticide, as using too little can create resistance in the pest, rendering the pesticide useless—which not only discourages further investment in inputs, but also creates problems for other local farmers by creating pesticide-resistant pests.

23 Zoé Druilhe and Jesús Barreiro-Hurlé, “Fertilizer subsidies in sub-Saharan Africa.”
BRAC Takeaways:

- Repeatedly interviewees pointed out that demand for quality, fair-priced inputs outstrips Uganda’s supply. Given the positive BRAC brand image we encountered, expanding the seed social enterprise to include other varieties of seeds or other inputs could be profitable, although pursuing this opportunity would first require more detailed market and financial assessments.
- As a seed business and a member of the Uganda Seed Traders Association, it is important for BRAC to continue lobbying the GOU for regulations that protect both businesses and farmers. If, for example, BRAC and other partners can convince the GOU to lower the price NaCCRI charges for breeder seed, this would lower the production costs of seed companies, allowing them to sell improved seed to farmers for less.

Agronomic Practices

Along with access to inputs, improved agronomic practices are a necessary compliment to ensure productivity gains for smallholder farmers. Anecdotal evidence suggests that BRAC’s extension program has increased uptake of good agronomic practices, such as line sowing, row spacing, weeding, and intercropping. The program has also promoted use of improved inputs (e.g., seeds, pesticides, and fertilizers) and taught farmers about the benefits of growing and consuming nutritious vegetables. Other promising agronomic practices include agroforestry (integrating trees/shrubs with crops/livestock), low/no tillage, crop rotation and diversification, and drip irrigation.

Agronomic practices are compromised by the effects of climate change in Uganda, along with other natural resource challenges, which include land degradation, low soil fertility, and water shortages associated with drier seasons. These effects have left smallholder farmers in a precarious situation, creating a need for “climate-smart agriculture.” Climate-smart techniques include soil management, intercropping (e.g., alternating between growing maize and legumes), and use of inputs such as drought-tolerant seeds. Recent analysis of climate change trends in Uganda suggest that smallholders are being, and will continue to be, impacted (with regional variations) by increased temperatures, higher frequencies of extreme weather events, and greater inter-annual variability in rainfall. These trends create secondary impacts such as increases in crop-harming pests and diseases. Current data suggests nominal shifts in average annual rainfall, yet farmers report changing patterns, and scientists note that more research is needed to better understand the trajectory of climate change effects in Uganda.

Water management is crucial to managing the effects of climate change, such as rainfall variability. Water harvesting—using simple, available technology like ponds, buckets and ditches—provides a low-cost way to conserve water for drier periods and creates an opportunity to grow high-value crops such as vegetables during the off-season. Drip irrigation technologies, if affordable to smallholders, can provide additional means of improving productivity. Integrated soil fertility management, which combines synthetic fertilizer and organic matter (compost), can also be a cost-effective and environmentally-friendly way to increase production. However, given the slow uptake of these practices

techniques among smallholders, if BRAC farmers are to adopt these techniques, BRAC must ensure the farmers understand the benefit of these techniques (such as by having MFs demonstrate the effects of improved soil fertility and water harvesting techniques).

**BRAC Takeaways:**

- BRAC should incorporate more techniques and technologies into its extension programming that take climate change into consideration, especially in regard to water and soil management.
- Just as BRAC has supported the entrepreneurship of CAPs, BRAC could share the start-up risk and support the business development of local soil testers who help farmers understand the nutrient content of their soil at an affordable price.
- In addition to supporting micro-irrigation practices at the farmer level, BRAC could consider partnering with other agricultural development organizations to encourage the GOU to invest in greater irrigation infrastructure in a manner that benefits smallholders as well as large, commercial farmers.

### Agricultural Finance

BRAC has struggled with agricultural finance in Uganda and continues to experiment with new modalities, as it does currently with the LEAD project in Tanzania. This section explores agrifinance challenges and opportunities, as well as alternative models for BRAC to consider for future implementation efforts.

In Uganda, access to credit is pivotal for smallholder farmers. Yet smallholders operate within an ecosystem of financial institutions that rarely provide farmer-friendly products. Microfinance institutions (MFIs) provide a necessary alternative to commercial banks, yet the terms of most MFI loans are not practical for farmers in that many MFI loans require weekly, bi-weekly, or monthly repayments, while farmer income is obtained almost entirely postharvest. As a result, only 12% of rural adults borrow from a formal bank or other formal actor like an MFI or Savings and Credit Co-operative (SACCO). Four percent borrow from family and friends, 19% borrow from informal organizations such as Rotating, Savings and Credit Associations (ROSCAs) or Village Savings and Lending Associations (VSLAs), and 65% remain unserved. Among these rural borrowers, 10.7% borrow to cover costs related to agricultural production. Of those borrowing for agricultural investments, 54% purchase inputs, 29% hire support labor, 15% purchase livestock, 6% invest in farm equipment. This market of underserved rural residents represents an opportunity to improve access to inputs, additional land, hired labor, and tools—all investments that can increase smallholder harvest and, in turn, income.

BRAC’s microfinance program in Uganda has been quite successful, but BRAC has yet to develop a finance option that works well for smallholders. As of December 2012, BRAC served 104,086 borrowers.

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27 Ibid.
28 Ibid.
through 130 branches, and BRAC projects that by 2015 it will serve more than 122,010 borrowers through 135 branches. The borrowers of these loans may or may not be farmers, but the principal use of these loans is not agricultural. The repayment terms for these loans are weekly; however, smallholders often prefer seasonal loans so that they can make repayments after harvests have been sold. To meet this need, BRAC’s agricultural program initially developed a loan product in which farmers repaid 50% of the loan pre-harvest, then repaid the remainder postharvest. However, many farmers spent the bulk of the loan on needed inputs (or other non-agricultural items, in some instances) and therefore did not have sufficient funds remaining for the pre-harvest repayment. As part of its response to this challenge, BRAC Uganda introduced a pilot in which farmers repaid 30% of the loan pre-harvest, then 70% postharvest. However, the low price farmers received for their crops postharvest left them unable to repay the remaining 70% of the loan.

Although agrifinance has not worked well for BRAC in Uganda, it has worked for others. Opportunity International (OI), for example, found that its agricultural finance programming resulted in an average maize yield of 4,185 kg for its clients in Uganda, as opposed to 3,360 kg for non-clients; it also found that the average per-acre yield was 1,010 kg for clients and 732 kg for non-clients. Clients reported their families having greater access to education and enjoying a better standard of living. OI’s model is important to consider due to its holistic and integrated nature. OI’s agriculture finance is implemented through a hub-and-spoke model by OI’s Opportunity Bank. The agricultural finance package includes features such as credit, savings, transfer, remittance, insurance (life, property, health, and crop), and training (in the form of videos, comics, games, role-playing, and one-on-one counseling). OI evaluates the farmer’s potential in order to determine the right package of services for the farmer, works along the entire value chain (with input sellers, extension partners, and output buyers) to increase the likelihood of smallholder success, and uses a variety of techniques to reduce risk. Risk reduction techniques include utilization of low-cost service delivery channels, a diverse savings portfolio (including non-agricultural participants), risk-sharing through the support of credit guarantees, and products and services tailored to specific contexts (rural population density, weather patterns, preferred crops, local culture, etc.).

The crop insurance market represents another area of agrifinance with untapped potential. The increasing occurrence of natural calamities, especially droughts, leaves farmers further in debt and less likely to invest in improved inputs. In Uganda, only 2% of adults use formal insurance, while 45% deal with risk informally by borrowing from family and friends, taking up donations from neighbors, and/or selling assets. According to Ibrahim Kaddunnabi, the Executive Director of the Insurance Regulatory Authority in Uganda, "The entire agriculture insurance potential for the country is estimated in excess of 29 BRAC Uganda, “2012 Annual Report,” accessed on September 19, 2013.
31 Ibid.
33 Ibid.
$150 million, so there is a lot to gain from agriculture for insurance firms.”

Multiple organizations are beginning to work in this area. For example, One Acre Fund’s start-up support package for smallholders includes a weather-indexed crop insurance service that is outsourced to the private sector. The insurance premium’s cost is wrapped up in a bundled, in-kind loan package that includes inputs (seed and fertilizer), training, and harvest sales support; this bundle requires a 10% down payment, followed by repayment of the balance postharvest. One Acre’s 2013 repayment rate for this bundle was 99%.

Finally, financial products—from savings to insurance to agrifinance—can be administered with the aid of mobile phones. The phones help reduce transaction costs and can overcome some infrastructure challenges; however, culture, breadth of mobile phone penetration, and functionality of mobile networks must be considered to determine whether mobile-based applications will in fact scale up financial service utilization. Syngenta’s Kilimo Salama crop insurance program in Kenya is an example of a mobile-facilitation opportunity. In this program, input and insurance bundles, or fertilizer and insurance bundles, are sold to farmers. Through the mobile phone platform M-PESA, farmers are directly paid a benefit if there is a drought or other natural calamity affecting their harvest.

**BRAC Takeaways:**

- As BRAC engages in agrifinance, in-kind loans provide one way to ensure agricultural loans are spent on inputs that will increase farm productivity.
- Savings and insurance opportunities are also important financial opportunities for smallholders, and financial training for borrowers increases the success of agrifinance offerings. BRAC is well positioned to provide these services directly but should consider whether pursuing implementation partnerships is a more strategic use of time and resources.
- Group guarantees for loans are less risky than individual borrowers. If BRAC works more with formal farmer groups (see below), it could lower risk and transaction costs.
- Given its structure, BRAC can choose whether to fold agrifinance offerings into its already-existing microfinance structure or manage them as part of its agricultural programming. Considerations for this decision include efficiency, management challenges, knowledge specialization, and risk exposure.
- Lessons learned from the new agrifinance design used by BRAC Tanzania in the LEAD project may prove useful for Uganda, as well as for other agricultural programs in Africa.

**Farmer Groups**

This section will explore the benefits, challenges, and various models used by development implementers to work with farmer groups in Uganda. The discussion focuses on farmer groups that produce staple crops, as BRAC beneficiaries predominantly grow staples.

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Farmer groups have taken multiple forms and had varied levels of participation throughout Uganda’s history. In 1991, there were 2.5 million smallholder farmers in Uganda, of which 1.6 million belonged to cooperatives. By 2012, although 58.8% of Ugandan agricultural households were aware of the existence of farmer groups, only 23.3% were actual members of a group. Whereas historically cooperatives had been an extension of the GOU, liberalization of agricultural markets in the 1990s led to a shift in farmer organizations. Although the groups still receive aid from the GOU, they are now more independent and less hierarchical. The GOU’s National Agricultural Advisory Services (NAADS) actively promotes farmer groups as a means of helping farmers operate more effectively in the marketplace.

Smallholders form groups to acquire a number of benefits. Farmer groups enjoy bulk purchasing power when buying inputs, and aggregated selling power with outputs (as long as the quality meets certain standards). As a group they benefit from economies of scale, are able to leverage new finance options through group guarantees, and can share the costs of communal equipment and machinery (such as scales, devices for measuring moisture, small tractors, threshers, and pumps for irrigation). Social and political benefits also derive from groups; within these organizations, smallholders generally participate democratically, are able to organize non-agricultural projects such as support for local schools, and have a more powerful voice in political and economic arenas. Private sector actors—and government bodies and development organizations—are incentivized to work with groups because doing so lowers the transaction costs associated with communication, training, and transportation.

IFPRI suggests that collective initiatives have a higher likelihood of success if they compliment agricultural intensification and involve bulking significant quantities of produce for commercial buyers. A review of experience from Mozambique, Malawi, Tanzania, and Ghana demonstrates that cash crops are better suited for collective marketing. However, collective organizing can still play an important role among farmers of staple crops by helping them achieve greater sales and higher prices than they would obtain individually.

Yet farmer groups are not a perfect solution. First, they are labor-intensive; finding a group of interested farmers and developing their capacity requires time, persistence, patience, and resources. Second, sustainability can be a challenge, especially if the group’s momentum is externally driven (by an NGO). Groups can also be challenged by lack of a sense of group identity, physical distance between members, diversity of culture and ambition, lack of trust, fear of change, and poverty levels that hinder the

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aggregation of surplus. A unique challenge can arise for women, who might be culturally discouraged from participating or whose time may be monopolized by domestic demands. When reversed, however, each of these challenges points towards an opportunity for successful farmer group formation, as sense of identity, close proximity, and interest and/or experience growing similar crops can unite farmers. A shared profit motive and corresponding business relationships with the private sector are crucial to groups’ success. The literature also suggests that development organizations must not push farmer groups too far beyond their current skill sets or seek overly rapid scale-up of the groups.

Various farmer group models exist, from informal village-level association to larger, formal cooperatives that are subject to applicable laws with corresponding rights and responsibilities. Farmer organizations can also be characterized as one of two types of organizations: the community-based and resource-orientated organization (e.g., village-based farmer groups) or the commodity-based and market-orientated organization (e.g., a coffee growers’ association). However, as the classification of farmer groups is not dichotomous, a whole range of farmer organizations exist with characteristics from more than one of these categories. In addition, the variety of cooperatives’ organizational structures creates another form of variation among these groups. In some instances, such as we observed in Masindi, cooperatives are also seed certifiers and sellers themselves—which means they are also competitors of BRAC’s social enterprise.

BRAC Uganda’s use of the cooperative group model is currently limited. Beneficiaries are not members of cooperatives, although BRAC’s social enterprise may sell seeds to cooperatives through agrodealers. BRAC’s Uganda group model has been informal and de facto; smallholders are not organized into groups with formalized governance and management structures but rather spring up organically from the relationships that CAPs and MFs develop with each other and with GFs. MFs meet regularly with one another, but this is for refresher trainings, not for group planning, business decision-making, and capacity development. These groups are still important, however, as they facilitate information exchange and provide peer support (especially for women). BRAC must consider which of these models is most appropriate for the communities in which it operates.

**BRAC Takeaways:**

- Formal farmer groups present opportunities for increasing farmer empowerment and income. Moreover, a well-developed group with a clear profit motivation can be self-sustaining beyond the life of a project. However, groups require competent leadership, good governance

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structures, and, for more formal cooperatives, professionalized processes and procedures in order to be successful.

- Women’s empowerment is an important benefit of BRAC Uganda’s informal, women-only farmer groups. However, these women still face gender-based challenges in their households and their communities. As BRAC facilitates farmer group formation, it should include men and proactively tackle these gender challenges.
- In the short- and medium-term, as BRAC’s social enterprise grows, cooperatives can act as a bulk buyer of inputs, which would increase BRAC’s revenue while helping smallholders.
- In the long-term, BRAC could consider supporting the development of profitable cooperatives. If BRAC decides to support formal farmer groups, it should be prepared to provide the education and support those groups need to achieve the status of a legal cooperative.

**Postharvest**

Postharvest is currently not a focus of BRAC Uganda's extension activities but is a pressing issue for smallholders in Uganda. In 2012, 18.3% of Ugandan cereal production was lost in postproduction activities, the bulk of which (in both absolute and relative terms) occurred in the maize sector. Grains can be damaged during harvesting, threshing, or transportation and by a range of pests, insects, and molds. Improvements to storage, drying, and transportation can prevent damage and loss. The following section discusses these preventative measures as well as the role of processing and value addition in postharvest.

Drying is an essential step that farmers must complete before effectively storing harvest. However, leaving maize to dry in the field for an extended period of time, drying maize without husks, or drying maize on bare ground increases the likelihood of damage. Open-sided drying cribs positioned to take advantage of wind can improve drying efficiency in humid areas. Researchers at Makerere University are currently developing a biomass-heated natural convection dryer that dramatically reduces drying time. In another example of improved drying technology, USAID’s Feed the Future Initiative in Uganda is testing a mobile batch dryer. Other innovators are exploring solar drying methods and the use of plastic sheeting, concrete drying yards, raised platforms, and trays made of wire mesh or reed.

Most smallholders in Uganda store their crops at home, where staples are more vulnerable to damage. Storage techniques—such as plastic crates, liners for existing packaging, hermetically sealed bags, or other airtight containers—can help protect harvest from diseases and pests. According to FAO, improved bags are best suited for Ugandan farmers since this type of storage requires minimal capital.

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48 APHLIS Uganda. “Losses Explanation.”
50 APHLIS Uganda. “Projects.”
51 Ambrose Agona, Jane Nabawanuka, and H. Muyinza. *An overview of maize in Uganda*.
investment and is already required by many buyers (because bagged grain is more easily transported and quantified). Other good storage practices include sorting grain before storage, storing maize in shelled form, and storing maize above ground. Use of plant products or synthetic pesticides as a disinfectant can also help ward off insects, though chemical methods are often expensive, not widely available, and difficult to apply properly.

Warehouses and metal silos, such as those the International Maize and Wheat Improvement Center (CIMMYT) has introduced in Kenya and Malawi, offer an alternative to home storage. Storage warehouses offer opportunities for individual farmers to access finance through warehouse receipt systems (WRS) and for larger farmer groups to co-finance grain silos for their use. Developing storage facilities at or near markets is another opportunity for improved storage.

Good storage practices and facilities can also shield farmers against market supply and price fluctuations by empowering farmers to retain their harvests until crop prices rise. After harvest, the sudden increase in supply drives down prices. Without storage, farmers are forced to sell when prices are low, while traders with access to storage are able to hold crops until the market price increases. With WRS, farmers (either individually or in groups) bring their harvest to a warehouse where their crops are inspected and stored safely for a fee. The warehouse owner becomes liable for the crops and issues a receipt to the farmer that can then be used as collateral. Farmers can also sell their crops in bulk to larger-scale traders and processors willing to pay a premium for reduced transaction costs and assured quality.

Finally, improved processing and value addition are two vital aspects of postharvest that can help farmers obtain a higher price for their product. Traditional Ugandan grain preparation includes prying cob by hand, rubbing two cobs together, or beating the cobs in a sack with a stick. As an alternative, simple maize shellers—such as the low-cost hand held sheller, the rotary sheller, and the hand-cracked maize sheller—enable farmers to optimize grain shelling with minimum damage and loss to the crop, increasing the quantity and selling price of the harvest. In addition to processing, value addition—through products such as maize flour (or other byproducts such as bran and germ) and poultry feeds—can increase demand and profitability within the maize value chain. As of 2007, less than 10% of the grain producers in Uganda added value to their harvest, indicating that value addition is an untapped market within agricultural development initiatives.

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53 Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and the National Agricultural Research Organization (NARO). “Maize Harvesting and Post Harvest Handling.”
58 Ambrose Agona, Jane Nabawanuka, and H. Muyinza. *An overview of maize in Uganda*.
**BRAC Takeaways:**

- There is a strong case to be made for BRAC Uganda to expand its services into postharvest handling. However, BRAC will have to decide whether establishing its own operations or partnering with others will be more strategic and sustainable.
- BRAC could consider piloting a warehouse receipt system as a kind of agrifinance product that would simultaneously increase farmer access to finance and to postharvest storage. It would be prudent for BRAC to link existing warehouse owners with farmers rather than creating and operating new warehouses. BRAC could facilitate relationships between warehouses and its beneficiary farmers by helping the two parties reach agreement concerning quantity, quality, price, and transportation. BRAC is well positioned to provide the additional support smallholders may need initially in order to meet warehouse standards.

**Partnerships**

The realm of partnerships is broad, encompassing those between NGOs, an NGO and the private sector, the public and private sector, and other combinations of actors in these three sectors. Strong incentives exist for these various actors to partner. Governments possess finite resources and understand that partnering with the private sector opens up new opportunities for solutions. The private sector is interested in expanding business operations into new, emerging markets yet fears market environments that lack infrastructure, are constrained by public policies, and lack a business-friendly legal framework. Civil society groups and other NGOs are looking to support socially valuable endeavors that are scalable and sustainable. Within these many types of partnerships, the following discussion focuses on the aspects of partnerships that are most relevant to BRAC as it considers collaborating with other actors operating in East Africa, particularly in the private sector.

In a study of 125 agricultural public-private partnerships (PPPs), the International Food and Policy Research Institute (IFPRI) identified reduced cost and risk, higher quality, increased competitiveness, and smallholder poverty reduction as just some of the major benefits of the partnerships.60 Many of these PPP benefits can be achieved through partnerships that a development NGO like BRAC may forge with a local, regional, or multi-national business. Although the IFPRI study focused on research-based partnerships in Latin America, the findings align with the perspective we heard from interviewees in the field of agricultural development.

However, this same study notes that partnerships are *not* always the most effective solution. Should the government be included in a partnership, for example? The answer might be no, especially if it means adding layers of bureaucracy and slowing the project down. Entities can also face “reputational,

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financial, strategic, operational, and compliance risks” when entering partnerships.61 Partnerships, then, should be considered carefully. Questions to consider when forming future partnerships include:

- Are there common interests or incentives that constitute a business case?
- Is the cost-benefit ratio positive for each partner, at least in the long run?
- Are there champions who will support the partnership (e.g., senior leadership as well as passionate and competent working-level staff)?
- Can expectations be managed so that the public and the partners themselves have realistic expectations for success?
- Will the partnership actively remove constraints, open up bottlenecks, and develop capacity in the enabling environment?
- Does the partnership structure emphasize function over form rather than automatically replicate the same structures used by others?

Organizations should also remember that partnerships do not have to be perfect to be beneficial. Within the partnership-building literature, the concept of “minimum viable partnership” emphasizes lowering the perfection requirements for a given partnership by quickly crafting an MOU that guides work together and then learning through the experience of working together what changes should be made.

**BRAC Takeaways:**

- The number and variety of market actors in Uganda provide many opportunities for BRAC to form partnerships, particularly with the private sector (similar to the partnerships LEAD is forming in Tanzania).
- BRAC, like all organizations, does not have the capacity to work in every segment of the value chain. It can pursue partnerships in those parts of the chain that are beneficial to smallholders and do not compete with its seed enterprise (e.g., postharvest, transportation, value addition).
- As a first step, we recommend that BRAC identify current market players, particularly fertilizer dealers and/or warehouse operators, whose existing operations BRAC could leverage. Whether a market actor’s partnership with BRAC should exist with BRAC’s social enterprise arm or with BRAC’s agriculture program would depend on the specific circumstances of each partnership.

**The Role of Social Enterprises**

The social enterprise status of BRAC Uganda’s seed company enables BRAC to take advantage of many benefits yet also exposes the organization to some of the M4P criticisms associated with subsidized social enterprises. This section explores the benefits of social enterprise ventures and additional considerations raised by M4P facilitators.

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A business that is a social enterprise aims to create social value in addition to generating profits. Social value is derived from actions that address inequities, particularly those that may not be addressed by other market actors. Creating these social benefits is built into the DNA of the enterprise, making social enterprises fundamentally different from businesses that solely seek profit. Social enterprises are able to create sustained social benefits largely through activities that generate revenue, which the enterprise can then reinvest in its operations. A key challenge for social enterprises is generating enough revenue to cover the costs associated with generating social benefits. One Acre Fund is one example of a social enterprise that has made great strides towards achieving self-sufficiency; in 2013, it was able to cover 73% of its field expenses with the revenues generated by loan repayments. However, One Acre’s headquarters and support costs are largely paid for with donor funding. Such reliance on donor funds is both an advantage and a source of criticism for development-focused social enterprises.

A social enterprise component can support an NGO’s autonomy as well as its sustainability. In Uganda, where BRAC’s social enterprise is young and focuses exclusively on seeds, the overall country program still relies on grants for 85% of its income, according to BRAC Uganda’s 2012 financial statements. However in Bangladesh, BRAC runs a variety of small- and medium-sized social enterprises, ranging from dairy to feed mills to solar energy to retail stores. The revenue from these social enterprises—along with the service charges received from loan activities and other investments—results in less than 30% of the overall country program’s budget coming from donor funding. BRAC’s social enterprises can play an important role in increasing BRAC’s overall independence from donor funding, which brings various benefits. Greater financial independence allows NGOs to design and implement comprehensive programs based on their own mission and experience-based strategy rather than on donor demands alone. Increased freedom can also empower an NGO to phase out its interventions when research and analysis confirms the timing is right, rather than in accordance with donor funding timelines that are often established before the project even starts. Finally, a stable source of revenue enables NGOs to be more innovative than when following donor-prescribed project or activity requirements.

M4P raises challenging questions for BRAC’s social enterprise work. If BRAC’s M4P work in Tanzania (which focuses on linking farmers to traders, agrodealers, and other market actors) is successful, BRAC must then ask itself whether this approach should be implemented in other countries. Adopting an M4P approach would be problematic in countries where BRAC has established a social enterprise, as running such a business is a form of market participation that, in theory, contradicts M4P facilitation. (The M4P argument would be that BRAC’s social enterprise benefits from cross-subsidization of its donor-funded NGO arm, which gives BRAC a unique advantage and “crowds out” potential market entrants.)

However, the counter-arguments that support BRAC’s social enterprise include: 1) the social enterprise can fill gaps created by market failures (e.g., providing jobs and products to poor residents of areas

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where other businesses are not operating); 2) by introducing fair-priced, high quality inputs and services into the market, it creates a standard against which other market actors must compete; 3) because it is a social enterprise, its pro-poor work is not fully dependent upon donor funding and is thus more financially sustainable; 4) it is an enterprise that intends to be present in the long-run and thus does not create short-run market distortions; and 5) it functions, practically speaking, no differently than any other regional or multinational company that utilizes non-local resources and expertise.

**BRAC Takeaways:**

- Given BRAC’s success with social enterprises in Bangladesh and its promising new seed processing plant at Nakaseke, there appears to be capacity, interest, and opportunity to scale up social enterprise work in Uganda. Expanding to include new varieties of seeds—hybrid maize, beans, vegetables, etc.—would naturally build upon existing infrastructure, and the brand value BRAC has generated in Uganda would easily extend to other agricultural inputs. A market assessment, including an analysis of competitors, would be needed to better understand the potential profitability of various options.
- The market actors we interviewed all agreed that overall demand for improved seeds outstrips supply. BRAC could therefore claim greater improved seed market share while it is uncontested, even if debt must be leveraged to do so. Again, a more detailed market assessment would be needed to determine the scope and nature of this opportunity.
- Investments in the social enterprise bring long-term gains, not just in the form of profit, but also in the form of greater sustainability and autonomy of BRAC’s programming.
- Some M4P critics will argue that BRAC should consider a seed market exit strategy instead of scale-up. However, the barrier to new entrants in the certified seed market is high due to long start-up time and large capital requirements. It is therefore unlikely that BRAC is “crowding out” other market entrants and more likely that it is successfully filling a gap in the market. Nevertheless, the M4P concept of “crowding out” is a valuable tool which in the future BRAC can use—along with considerations of impact, competition, and return on investment—in order to determine the sectors, markets, and value chains in which it is most appropriate to expand.

**Conceptualizing Sustainability, Resilience, and ROI**

When discussing sustainability, resilience, and ROI, BRAC should keep in mind different conceptualizations of these terms, as organizations have their own definitions based on their operations and contexts.

Within the context of M4P, the concept of **sustainability** is built on the belief that if newly created relationships between market actors are profitable, those relationships will persist into the future, beyond the life of the project. The result of this belief is an approach in which, prior to becoming involved in any market, an organization develops a clear exit strategy to avoid becoming a long-term market player; this ideally results in a market that can ultimately function in a pro-poor manner without the organization’s presence. Many non-M4P implementers also think of sustainability as meaning that the benefits of a project persist beyond the life of the project. For some NGOs, sustainability is more about maintaining a long-term organization presence and having a steady stream of donor funding or
designing field operations that can pay for themselves, such as through the interest earned from microfinance projects. Finally, most implementers incorporate environmental sustainability into their programming as well.

While multiple definitions of resilience exist, most focus on the ability to mitigate, adapt to, and recover from shocks and stresses. Within agriculture, organizations understand this as the ability of farmers, families, communities, value chains, and market systems to recover from shocks such as climate change, family emergencies, natural disasters, and price fluctuations. Resilience strategies include crop insurance, warehouse receipt schemes, non-farm income, family savings, and weather-tolerant crops.

Quantifying ROI takes a variety of forms. For some, positive ROI occurs solely if the cost of the project is less than the collective income gain of farmer beneficiaries. Other approaches include calculating productivity (e.g., The Gates Foundation) and “value for money” (e.g., DFID).

**BRAC Takeaways:**

- BRAC could benefit from developing clear, internally consistent definitions of these terms in the context of its agriculture programs to share with all staff and, possibly, to share externally.
- By developing a sustainability strategy for its agricultural programs in Africa, BRAC could clearly articulate its organizational understanding of the concept. This would help managers as they evaluate strategy, guide field staff as they implement projects, and contribute to the development community's broader discussions of sustainability.
- When asked about resilience, BRAC staff responded with explanations of how they keep the program going, even when problems arise. To promote a broader understanding of the concept among staff, BRAC could disseminate information about the concept of resilience as it relates to smallholders surviving unexpected shocks.

**Monitoring, Evaluation, and Learning**

As BRAC engages in market facilitation, processes for monitoring, evaluation, and learning will be complicated, in part because the dynamic nature of building relationships between market actors is difficult to quantify. For example, while agricultural extension work lends itself well to the concept of “direct beneficiaries,” market systems work does not. Furthermore, randomized control trials, while useful for measuring impact under certain circumstances, are particularly difficult to use to assess the effects of market facilitation considering the many market players and constantly shifting relationships that may function as confounding factors.

Interviews revealed that donors are struggling to gauge the impact of their M4P projects in a way that yields tangible, measurable outputs yet is consistent with a facilitative approach. One approach to addressing this tension is the “twin-track M&E system” of Kenya Market Trust’s Market Assistance Program (KMAP). KMAP gathers two sets of data: one required by donors and another that gathers
information on feedback signals indicating structural change in a market system (e.g., increased loyalty among actors, as measured by how often a farmer returns to buy inputs from a particular retailer).\textsuperscript{66}

In another approach, Root Capital and Acumen Fund have developed techniques emphasizing accuracy over numerical precision, which includes triangulating different types of information to periodically rank or categorize impact (such as by using a schema that classifies interventions as failure, status quo, success, or game changer) in a way that facilitates comparisons over time.\textsuperscript{67} Another means of gauging the effect of market facilitation is to track not only farmer profit but also profit of connected businesses indirectly impacted by changes in farmers’ quality or level of production. Another option, suggested by BRAC Tanzania and TetraTech staff, is using social network analysis as a tool to determine a project’s impact on market dynamics. Choosing to collect data that is easily gathered during the course of normal operations, like Mercy Corps does with its private sector partners, can also aid M&E within this context. In addition, some organizations have started to use smart phones and tablets to support GPS-enabled social mapping, market assessments, and spatial impact analysis.

**BRAC Takeaways:**

- To understand the full scale and range of its impact, BRAC will have to complement its monitoring activities, use of technology, RCTs, and other quantitative and qualitative data collection methods with techniques that also consider broader market dynamics.
- The demand for rigorous market facilitation evaluation techniques presents an opportunity for BRAC’s research and evaluation units, which could explore this topic through a special project.

**BRAC Uganda SWOT Analysis**

The following section evaluates strengths, weaknesses, opportunities, and threats related to BRAC Uganda’s approach to agricultural development.

**Strengths**

- **Broad geographic scope.** BRAC’s branch offices crisscross the country, which facilitates expanding old projects or initiating new ones since infrastructure and local relationships are already in place. Reaching 64 out of 111 districts, BRAC is better positioned to work with vulnerable communities in hard-to-reach places than a number of other organizations.
- **Deep community connections.** BRAC’s long-term organizational presence has created trust between the community and BRAC as an institution, which enables staff to better understand community needs. Repeatedly we heard BRAC described as a grassroots organization.
- **Holistic view of development.** BRAC is not just an agricultural organization or a micro-finance institution; it includes programming for health, education, youth empowerment, adolescent livelihoods, agriculture, poultry and livestock, and small enterprises. In communities where


BRAC works, a family can receive support from more than one of BRAC’s programs. This kind of multi-faceted approach supports not only the entire household, but also the entire community.

- **Passionate staff.** The energy, enthusiasm, and dedication of BRAC’s staff—the majority of whom are Ugandan—is highly evident in conversations with these individuals.

- **Women’s empowerment.** BRAC’s beneficiaries are predominantly women. The women we interviewed reported having more disposable income to buy personal and household items, as well as pay school fees. Female model farmers also reported feeling they are treated with more respect by the community and by their husbands. They felt more confident speaking in public and helping others. Women in this program also benefited from increased financial savvy.

- **Multi-pronged approach to extension.** The interconnections between BRAC’s GFs, MFs, and CAPs facilitate knowledge transfer and input sales, amplifying the program’s effect on yields.

- **Spillover effect of extension.** Staff told stories of non-BRAC farmers showing up to trainings, where “no one is turned away.” Model farmers also mentioned non-BRAC farmers who learn from watching their neighbors or receive help even though they aren’t part of BRAC’s program.

- **Commitment to gathering feedback.** BRAC’s monitoring and auditing of its agriculture programs is rigorous, and monitoring staff conveyed in interviews an earnest desire to provide the organization with information that could improve projects. Our team also heard descriptions of feedback loops, in which branch staff listened to beneficiaries’ needs and made programmatic changes accordingly. For example, BRAC switched from using bucket-based maize packaging to using bag-based packaging that was more familiar and agreeable to local customers.

- **Multiple benefits of BRAC’s seed company.** BRAC’s social enterprise complements the work of BRAC the NGO. After the completion of the advanced seed processing center at Nakaseke, the enterprise has the potential to generate a revenue stream that can be re-invested in the work of the organization and help BRAC provide superior-quality, high-yielding, OPV seeds at fair prices—which in turn strengthens BRAC’s reputation among farmers and agrodealers. The social enterprise also employs local villagers who would not otherwise have this employment, access to training and advice, or guarantee of a fixed price. When BRAC expands its operations once its processing plant is constructed, nearly 1,000 more contract farmers will benefit from this arrangement. As more high-quality, fair-priced BRAC seed enters the market in previously under-served areas, smallholders will benefit as well.

- **Strong brand value.** Farmers, agrodealers, and BRAC staff all confirmed the desire of customers to see other BRAC products such as hybrid maize, vegetables, fertilizer, pesticide, and tools.

**Weaknesses**

- **Lack of demand creation.** While BRAC’s agricultural program is improving smallholder harvest (through its extension services and the social enterprise’s supply of inputs), the program is not currently directly working to increase market demand for farmer output. Smallholder farmers must still sell their surplus at low prices through middle men, with only small gains in income. Moreover, they are not experiencing any new linkages to buyers or processors on the demand-side of the market, even though such linkages could help increase the impact of improved...
harvests. As suggested by a number of interviewees, focusing on supply merely “nudges” the market system rather than more dramatically transforming it.

- **Staff attrition.** This phenomenon was mentioned as a problem in that frequently training replacement staff is very resource-intensive. One of the possible reasons shared with us is that salaries are low, which may force employees to seek alternative opportunities. An additional staff complaint we heard was that transportation—to and from beneficiaries’ farms and branch offices—is slow, costly, and unreliable. Some staff mentioned motorcycles as a good solution but, given their high cost, suggested bicycles as a more economical solution. However, both suggestions are problematic; BRAC Uganda previously provided motorcycles but found that staff minimally used them, and the topography of Uganda is not conducive to bicycles. While not a programmatic weakness in and of itself, challenging transportation impacts staff morale.

- **Slow-moving bureaucracy.** Staff raised concerns about the time it takes for a field-level idea to rise up through the appropriate channels to receive a decision, and then come back for implementation—especially if BRAC International must weigh in. Inadequate inability to innovate is particularly problematic within the agricultural sector because market prices and weather conditions (and corresponding farmer needs) change rapidly, meaning programmatic decisions need to be made quickly to respond in real time. While BRAC International understandably needs to maintain a certain level of control and consistency across its global operations—and BRAC Uganda needs to maintain the same quality control throughout the country—there appears to be room for improvement. Possibilities include creating a fast-track process for urgent approvals, pre-approving a small set of options (e.g., packaging for seeds) from which staff can choose, or developing a matrix of approval thresholds in which certain decisions can be made at the branch or country level. BRAC can also help ensure that its bureaucratic structures and processes do not hinder innovation by encouraging creativity through methods such as creating space for “outside-of-the-box” thinking in monthly team meetings, establishing an internally advertised procedure for employee submission of new project ideas and/or improvements to current projects, and supporting use of pilots to test new concepts.

- **Inadequate focus on smallholder agricultural finance.** As farmers are familiar with BRAC’s other micro-finance offerings, they expect and need agricultural finance products as well. Moreover, the benefits of BRAC’s agricultural extension trainings are not fully realized when farmers lack access to sufficient capital to purchase improved inputs. Although such a product was previously attempted by BRAC and proved unsuccessful, a number of organizations are programming in this area—which suggests that perhaps there are new lessons from which BRAC can learn. BRAC can also learn from its LEAD project in Tanzania, which is working with agricultural finance.

**Opportunities**

There are many opportunities for BRAC to expand its services throughout the agricultural value chain. Prioritizing these opportunities is a function of current organizational capacity, future funding, and strategic vision. However, as a starting point, our team offers for BRAC’s consideration the opportunities listed below, which stood out to us as having the greatest potential.
• **Offering additional seed varieties.** Given BRAC’s success with its seed social enterprise, farmers and agrodealers voiced interest in a greater variety of BRAC seeds, including hybrid seeds for staple crops and improved seeds for vegetables. In addition, donors and NGOs who are interested in nutrition hope that BRAC will carry more bio-fortified seeds. The demand for these seeds may not exist currently—due to their unfamiliarity—but given BRAC’s trusted role in the community, it could grow the market for these seeds with targeted marketing.

• **Expanding farmer use of small machinery.** A number of benefits can be achieved through farmer use of tools and small machinery, including small-scale tillers, threshers, and irrigation pumps. BRAC could help facilitate farmer access to these supplies, such as by supporting the development of local entrepreneurs whose business revolves around renting out small, portable machines to smallholder farmers.

• **Water management techniques.** The effects of climate change in Uganda, particularly increasingly erratic rainfall, present an important opportunity for BRAC to introduce into communities water conservation planting techniques, affordable micro-irrigation technologies, and water-harvesting techniques.

• **Farmer groups.** Exploring the group model in Uganda has the potential to improve smallholder purchasing, bargaining, and selling power; facilitate group access to finance; reduce transaction costs for input sellers and output buyers; and empower farmers to have a more organized, and therefore pronounced, voice in their communities and local business environment.

• **Postharvest.** Few smallholder farmers in Uganda are currently taking advantage of postharvest activities that have the potential to improve their returns. BRAC could help smallholders engage individually or collectively with warehouse businesses that store the product properly until better prices can be garnered, assist smallholders in pursuing processing and/or value addition for higher profit margins, or develop small-scale, farmer group-led storage facilities.

• **Increased involvement of men.** We heard stories from farmers and staff about men who would take the additional profits earned by their wives for gambling or alcohol. We heard other stories of women who would purchase BRAC seed, only to find that their husbands re-sold the seed for quick money instead of using it for planting. Staff may need additional gender sensitization trainings to be able to realize when these situations occur and intervene appropriately. BRAC could also more intentionally engage men at the household-level or in trainings to build broader support and ownership for female-centered agricultural development efforts.

• **Develop more robust piloting process.** When pilots do not work as well as anticipated or desired, BRAC has, at times, abandoned ideas that could potentially still work with some creative adjustments. For example, when attempts at offering agrifinance to farmers were not fully successful, BRAC’s subsequent redesigns consisted primarily of adjusting repayment timelines and did not reconfigure the product offered. Although BRAC has limited resources, it should consider the potential long-term benefits of engaging in more robust pilot activities.

**Threats**

In addition to the threats alluded to throughout the preceding “Landscape of Actors and Approaches” sections, BRAC faces the following threats to its agricultural work in Uganda.
• **Climate change.** As discussed in “Agronomic Practices” above, farmers face present and future challenges presented by climate change. Smallholders and agrodealers interviewed for this report recounted late rains in recent seasons that prevented farmers from planting on time. Such delays can reduce yield (unless adaptive seeds are used) and postpone farmers’ purchase of agricultural inputs, including BRAC seed. BRAC’s social enterprise will need to keep these trends in mind when considering revenue flows and possible expansion into climate-adaptive seed technologies (as well as pest- and disease-resistant varieties). BRAC the NGO will need to consider these trends in agricultural project design and implementation; examples include 1) connecting smallholders to crop insurance opportunities to smooth weather-based shocks, 2) promoting resilience-supporting savings accounts for farmers, 3) including climate-smart agricultural practices, and 4) supporting postharvest practices (storage, processing, value addition) that account for changes in temperature, moisture, etc.

• **Agricultural handouts.** A history of agricultural handouts to smallholders in Uganda makes it very difficult to develop sustainable economies around the inputs, tools, and small machinery needed by farmers. While BRAC has moved away from giveaways, some other projects still provide free inputs. BRAC must understand the incentives that will entice farmers to buy inputs so that they do not wait to receive them for free from another source.

**Other Considerations**

Several themes emerged in our research that do not fit neatly within a SWOT framework but have significant implications for BRAC’s current and future programming.

**BRAC’s unique hybrid model.** In Uganda, BRAC operates simultaneously as a donor-funded NGO and seed social enterprise. This hybrid model creates synergistic benefits such as brand recognition, cross-subsidization of staff and other resources, and interconnected community benefits (e.g., when smallholders buy BRAC seeds, it is an investment that benefits their own harvests as well as the livelihoods of all the contract growers and other employees of the seed business). The hybrid model also creates additional complexities, ranging from staffing patterns to organizational structure to management of a more complex system of financial and management processes. NGOs and social enterprises typically enjoy distinct comparative advantages and unique challenges; by operating in both spaces, BRAC Uganda encounters a combination of both these features.

**Sustainability of the CAP and model farmer model.** BRAC field staff believe that this model is sustainable after BRAC’s extension service programming in Uganda ends. Interviewed CAPs and MFs felt similarly, although CAPs acknowledge that accessing inputs would be more challenging without BRAC’s support. Some interviewees suggested that agricultural extension work (including BRAC’s CAP and model farmer activity) is inherently unsustainable without continued donor funding, largely due to the “hands on” nature of providing training services and initial input support to encourage farmer uptake of technology. Currently, an RCT is taking place in communities where BRAC funding is being phased out, in order to assess the residual effects of the CAP and MF model. This RCT will hopefully partially address the question of CAP and MF sustainability. Regardless of sustainability, CAPs and MFs can also be understood as a temporary measure; that is, they can be viewed as a stop-gap between current village
conditions and a time when other market actors reach the village level. These market actors include agrodealer representatives who offer a full selection of inputs (as opposed to the limited selection offered by CAPs) and input companies who fold agricultural extension into their operational costs (as opposed to the MFs, who do it for free).

**Youth entrepreneurship.** While not a focus of our research, the topic of youth is an important consideration in Uganda given the country’s youth population bulge. One interviewee suggested engaging youth as entrepreneurs in small, agro-business ventures such as mobile agricultural technologies (irrigation pumps, threshers, shorting machines). However, challenges to engaging youth in agriculture include: 1) identifying how to elevate farming and agro-business to a respected level, so that youth perceive them as an aspiration and not a future to be avoided and 2) helping youth who choose to pursue agricultural employment succeed in a world of much older farmers.  

**Information and communications technology.** ICT, particularly mobile phone-based support for agricultural development, emerged in our literature review and interviews as an important, accelerating trend. In East Africa more broadly, mobile phones are used for money transfers, market information sharing, agronomic advice, plant disease identification, and agrodealer customer loyalty programs. Current trends suggest that mobile phone market penetration and these corresponding agricultural services will continue to grow. The question of how to best leverage these trends is an essential topic for BRAC to explore with further research and creative, new project design.

**BRAC Tanzania Cross-Pollination**

The LEAD project in Tanzania is funded by DFID and based on the M4P approach to agricultural development (see “M4P Theory and Practice” above). The core model of the LEAD project is similar to BRAC’s agricultural projects in Uganda in that it provides agricultural extension services to farmer beneficiaries, as well as works with demonstration farmers who—with training and input support from BRAC—display beneficial production techniques. However, the project also works with lead farmers and general farmers through a group model in which lead farmers are trained on good agricultural techniques then, in coordination with BRAC, select fifteen general farmers to train on agriculture practices. The rationale is that these informal producer groups will enable farmers to collectively sell their produce and bargain for a better price.

Additionally, the project marks a new model for BRAC due to its emphasis on market facilitation. For the first time, BRAC is assuming a facilitator role instead of operating as an active market actor through its social enterprise. As a result, in addition to focusing on efficient production, LEAD is also helping create market linkages between farmers, traders, and agrodealers that are designed to last after the project ends. As the project is still in the early stages of implementation, these linkages are not yet fully formed, but the project team has begun the process by conducting many detailed market assessments at the

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branch level. Through these assessments, LEAD staff identify local traders and agrodealers that supply quality products, and they subsequently introduce these dealers to the project’s lead farmers.

To further its role as a facilitator, LEAD is also working to create partnerships with actors operating at different levels of the market. At the meso-level, LEAD partners with companies to increase farmers’ access to, and use of, inputs. Representatives of these inputs companies attend LEAD trainings in which the lead farmers are introduced to their products and are initially given a small amount of product for free—creating an awareness of and demand for quality inputs among the farmers. At the micro-level, LEAD is forming partnerships with individual grain traders, millers, trade associations, and agrodealers. The project also intends to help build the capacity of these market actors, such as through one-day capacity building trainings for traders.

The extension training LEAD has provided to date has been well received by participating farmers. Following the first round of trainings, access to finance for purchasing inputs has emerged as a main constraint faced by LEAD farmers. During focus group discussions and interviews, farmers expressed the need for financial services to take full advantage of the agricultural production training they have received. The LEAD project has been planning to include a financial services component and will initially pilot these products with a small segment of LEAD beneficiaries beginning in 2015.

As the LEAD project in Tanzania and BRAC’s agricultural program in Uganda operate in similar spheres, several opportunities exist for learning and knowledge-sharing across the two programs:

**Agricultural Loans:** The Uganda program experienced critical challenges when attempting to provide agrifinance products to smallholder farmers (see “Agricultural Finance” above). However, LEAD is about to begin piloting specialized finance products tailored to smallholder farmers and also plans to introduce a set of financial products designed specifically for traders, agrodealers, and other agricultural market actors. If the Tanzania pilot proves successful, BRAC Uganda could test similar products as part of its agriculture programs. LEAD’s roll-out of these new, specialized products also provides an opportunity to test the effects of incorporating vouchers or in-kind loans into BRAC’s agrifinance programming. BRAC could also use LEAD’s informal farmer groups as a platform for piloting an agrifinance model that makes use of the group guarantee.

**Other Financial Products:** As BRAC Tanzania is piloting new models and new relationships in the LEAD project, it is an excellent opportunity to explore other financial products that BRAC has not pursued in Uganda or, to our knowledge, anywhere in Africa. BRAC could facilitate linkages between farmer groups and existing warehouse receipt systems (WRS) so that farmers could use these receipts as collateral for loans. BRAC could also link farmers to local branches of financial institutions that provide micro-savings products and/or crop insurance. Where these products for smallholders do not exist, BRAC could work collaboratively with these institutions and farmer groups to design new products. The ability to reach into untapped markets is a potential incentive for these institutions, and BRAC’s agronomic support for these farmers groups would help mitigate risk for the lending institutions.

**Postharvest:** Increasing demand for farmers’ harvest is an opportunity for BRAC Uganda, and linking farmer groups with buyers is an explicit goal of LEAD. If LEAD tests linkages between farmer groups and
WRS, this learning would therefore be applicable in Uganda. If LEAD finds that other private sector buyers are more effective partners than warehouses, this too would be valuable insight for BRAC Uganda. In either example, it will be important to know how crucial farmer organization is to facilitating these linkages.

**Farmer Groups:** In Uganda, farmers meet in groups, both for general trainings and when model farmers meet regularly. Yet this differs significantly from the comparatively more formal farmer groups in Tanzania’s LEAD project. Once LEAD farmers experience several harvests as part of a group, the effect of the group model on farmer sales will likely become clearer. As mid-line evaluation results emerge from this new model, BRAC Uganda could consider whether it wishes to incorporate farmer groups and if so, what improvements can be made upon the LEAD model. LEAD’s group model may also have implications for sustainability, for if LEAD farmers experience greater financial success as a group than they did as individuals, there will be strong incentive to continue working together after LEAD’s conclusion. LEAD also provides BRAC with the opportunity to carefully track and analyze the extent to which organizing farmers into informal groups increases their agency within the broader market system. As M4P approaches are sometimes criticized for perpetuating power inequalities within the market, trends in smallholder farmer empowerment will be important for LEAD to observe.

**Market Facilitation:** Most immediately, LEAD’s market linkage activities provides a set of facilitation strategies that BRAC Uganda could consider employing, including district-level market assessments, informal collaboration with high-quality traders and agrodealers, and more formalized partnerships with select private sector companies (primarily those selling seeds and fertilizers). Developing strategic relationships with key private sector actors could potentially amplify the effects of BRAC Uganda’s current agricultural extension work.

In this section we have focused on cross-pollination between BRAC Tanzania and Uganda. However, we believe that many of the learnings uncovered by BRAC as it pilots LEAD’s M4P approach—insights into what works well and also what works poorly or not at all—would prove useful for BRAC project design and implementation in other African countries.

**Conclusion**

Our landscape analysis of actors and approaches uncovered an array of emerging practices within market-based approaches to agricultural development. Due to contextual and organizational differences, not all examples are immediately applicable for BRAC. However, these ideas and examples can serve as catalysts for innovation within BRAC as it continues to expand operations in Uganda, Tanzania, and across Africa. The SWOT analysis of BRAC Uganda reveals that the organization has built a strong foundation, and that its work is impactful and appreciated by those it serves. Opportunities abound but must be prioritized based on strategic considerations and organizational capacity. Finally, the cross-pollination of learning between BRAC Uganda and Tanzania suggests that as both programs continue to innovate, it will be important to educate one another about important, emerging practices—to avoid each other’s mistakes and capitalize on each other’s successes. Many of the lessons learned in East Africa will help guide BRAC as it continues to develop programs across the continent.
Works Cited


Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and the National Agricultural Research Organization (NARO). “Maize Harvesting and Post Harvest Handling.”


Volume of Annexes

Annex A: Map of Uganda

Annex B: Research Questions Matrix

The table below outlines the guiding sub-questions and key methods our team used to answer this project’s primary research questions.

<table>
<thead>
<tr>
<th>Primary Questions</th>
<th>Sub-Questions</th>
<th>Method of Answering</th>
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<tbody>
<tr>
<td>1) What does the landscape of market-based agricultural development projects in East Africa look like?</td>
<td>1a) What is the spectrum of approaches and actors, including theories of change, program designs, project implementation strategies, challenges, opportunities, innovations, and measurement of overall impact?</td>
<td>Literature review, evaluation reports, project documents, landscape interviews (project and portfolio managers and thought leaders), and in-country interviews (beneficiaries, project staff, and organizational leaders).</td>
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<td>1b) What are practitioners and organizations identifying as best practices related to agronomic practices, staples nutrition-related food diversification, access to inputs, agricultural finance, postharvest storage and processing, public-private partnerships, and access to markets?</td>
<td>Literature review, evaluation reports, project documents, landscape interviews (researchers/staff of research units), and in-country interviews (beneficiaries, project staff, and organizational leaders).</td>
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<td>2) What are the strengths, weaknesses, opportunities and threats (SWOT) for BRAC within this landscape?</td>
<td>2a) What market linkages (e.g., diversifying value chain financial services, increasing market access, decreasing market information asymmetries) has BRAC successfully facilitated? Which are missing? Of those that are missing, which can BRAC facilitate?</td>
<td>Internal BRAC project documents and evaluation reports; interviews with other organizations.</td>
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<td></td>
<td>2b) What lessons about possible opportunities for BRAC arise from its new M4P work in Tanzania?</td>
<td>M4P desk research, project documents, landscape interviews (M4P facilitators and thought leaders), and in-country interviews (beneficiaries, project staff, organizational leaders, and other market actors).</td>
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<tr>
<td>Primary Questions</td>
<td>Sub-Questions</td>
<td>Method of Answering</td>
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<tr>
<td>2c) How sustainable are BRAC Uganda’s programs in terms of financial longevity,</td>
<td>2c) How sustainable are BRAC Uganda’s programs in terms of financial longevity, post-project knowledge, attitudes, and practices (KAP), and environmental conservation (triple bottom line)?</td>
<td>Sustainability desk research, project documents, landscape interviews (project implementers and thought leaders), and in-country interviews (beneficiaries, project staff, organizational leaders, and other market actors).</td>
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<tr>
<td>post-project knowledge, attitudes, and practices (KAP), and environmental</td>
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<td>conservation (triple bottom line)?</td>
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<tr>
<td>2d) How cost-effective are BRAC’s projects in terms of benefits/outputs (agricultural productivity, nutrition indicators, trainings given, and/or others) as compared to costs (inputs, staff, etc.)?</td>
<td>2d) How cost-effective are BRAC's projects in terms of benefits/outputs (agricultural productivity, nutrition indicators, trainings given, and/or others) as compared to costs (inputs, staff, etc.)?</td>
<td>ROI desk research and interviews with BRAC staff.</td>
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<tr>
<td>2e) How do BRAC Uganda projects promote resilience in terms of smoothing the</td>
<td>2e) How do BRAC Uganda projects promote resilience in terms of smoothing the impact of disasters on beneficiaries and the ability of those beneficiaries to recover quickly?</td>
<td>Resiliency desk research, project documents, landscape interviews (project implementers and thought-leaders), and in-country interviews (beneficiaries, project staff, organizational leaders, and other market actors).</td>
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<td>impact of disasters on beneficiaries and the ability of those beneficiaries to</td>
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<td>recover quickly?</td>
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Annex C: Landscape of Actors Matrix

All data for this matrix were drawn from interviews, organizations’ websites, and organizations’ reports. If additional sources were used, these are noted accordingly. In the matrix, the term “facilitator” is broadly used to mean that the organization facilitates new market linkages through its projects. In addition to M4P facilitation, a check in this column could mean the actor engages in facilitation within a USAID value chain approach (VCA), Participatory Market Chain Approach (PMCA), or other approach. The “facilitator” classification is based on our analysis, as opposed to an organization’s self-identification.

<table>
<thead>
<tr>
<th>Actor</th>
<th>Market Facilitator?</th>
<th>Sample Activity</th>
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</thead>
<tbody>
<tr>
<td>Misc. Resources</td>
<td>✓</td>
<td>For examples of M4P projects, resources, and case studies, see DCED’s website (<a href="http://www.enterprisedevelopment.org/page/m4p">http://www.enterprisedevelopment.org/page/m4p</a>) and the M4P Hub (<a href="http://www.m4phub.org">http://www.m4phub.org</a>).</td>
</tr>
<tr>
<td>MAP</td>
<td>✓</td>
<td>Kenya Markets Trust, the implementer of the Kenya Market Assistance Programme (KMAP), is piloting multiple programs to catalyze new market linkages. For instance, KMAP is working with local agrodealers to change their commercial relationship with smallholders. It educates agrodealers about the benefits of not treating customers in a short-sighted, profiteering manner; instead, agrodealers are learning how to develop customer relationship management programs that promote loyalty and long-run customer base building. SMS promotions bring new customers to agrodealers and provide discounts to smallholders, an incentive that encourages poor farmers to try new, improved inputs. For more on this program: <a href="http://www.kenyamarkets.org/what-we-do/the-market-assistance-programme">http://www.kenyamarkets.org/what-we-do/the-market-assistance-programme</a>.</td>
</tr>
<tr>
<td>TechnoServe</td>
<td>✓</td>
<td>TechnoServe's Project Nurture supports smallholder fruit farmers of Uganda and Kenya in partnership with Coca-Cola and the Bill and Melinda Gates Foundation. TechnoServe helps develop farmers’ capacity to produce mango and passion fruit of a high enough quality that they can participate in Coca-Cola’s fruit juice value chain. TechnoServe further focuses on building the capacity of farmer business groups and facilitating their connection to training, improved inputs, and output markets. The partnership has been beneficial for both participating farmers and Coca-Cola, who is expecting to recuperate its investment in the project within 3-5 years. Additional information can be found at <a href="http://www.technoserve.org/our-work/projects/project-nurture">http://www.technoserve.org/our-work/projects/project-nurture</a>.</td>
</tr>
<tr>
<td>PMCA</td>
<td>✓</td>
<td>Participatory Market Chain Approach (PMCA) is similar to M4P in its emphasis on facilitation and pro-poor market development, yet it is a unique market systems approach. PMCA grew out of work done in the Andes by Centro Internacional de la Papa (CIP) and includes a three-phase, participatory process: 1) study of market and key actors, 2) business opportunities analysis, and 3) creation of market-driven innovations. Over the course of the three phases, 70 Beth Jenkins and Lorin Fries, Project Nurture: Partnering for Business Opportunity and Development Impact (Cambridge, MA: The CSR Initiative at the Harvard Kennedy School, 2013).</td>
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</table>

| **iDE Bangladesh and Nepal** | ✔️ | In Nepal and Bangladesh, iDE uses PMCA in its Agriculture and Nutrition Extension Project (ANEP). As part of ANEP, iDE works with smallholders and other market actors to develop both supply and demand for nutritious crop production—a joint venture that increases profit for all market actors involved while also increasing food and nutrition security for the community. More on ANEP can be found here: [http://www.ide-uk.org/frontpage/our-work/programmes/nepal-bangladesh/](http://www.ide-uk.org/frontpage/our-work/programmes/nepal-bangladesh/). |
| **VCA** | ✔️ | The value chain approach (VCA) is the primary market systems development model of United States Agency for International Development (USAID). With the end market in mind, VCA uses systems thinking to understand the entire value chain, as opposed to focusing on only one actor within the chain or one section of it. In VCA, it is important to understand the relationships between market actors, the political economy of power relationships, and the larger ecosystem within which the value chain exists. A comprehensive description of VCA, along with examples and advice for implementers, can be found on the Microlinks website: [http://www.microlinks.org/good-practice-center/value-chain-wiki/overview-value-chain-approach#book-anchor-2](http://www.microlinks.org/good-practice-center/value-chain-wiki/overview-value-chain-approach#book-anchor-2). |
| **Tetra Tech** | ✔️ | Tetra Tech is USAID’s Feed the Future initiative implementer in Uganda. Tetra Tech’s goal is to facilitate increased functionality in the agricultural inputs market to reduce the amount of fake inputs within the market and ultimately provide better, more affordable inputs to Ugandan commercial and subsistence farmers. Tetra Tech applies customer-service business strategy training as well as technical support to national level companies, wholesalers, and the government. A related video entitled “Facilitating Systemic Change: Experiences from Feed the Future Projects in Uganda” can be found here: [https://www.youtube.com/watch?v=rp-zyT-qYyc](https://www.youtube.com/watch?v=rp-zyT-qYyc). |
| **Development Alternatives Incorporated (DAI)** | ✔️ | In Tanzania, DAI’s Private Enterprise Support Activities projects (PESA I and PESA II) focused on forming farmer associations, or strengthening existing ones, to increase farmers’ access to finance, agribusinesses, and buyers. Guided by subsector and competitive studies, DAI identified constraints to farmer participation in markets and provided technical, business development, and training support. More on these projects can be found here: [http://dai.com/our-work/projects/tanzania%E2%80%94private-enterprise-support-activities-pesa-i-ii](http://dai.com/our-work/projects/tanzania%E2%80%94private-enterprise-support-activities-pesa-i-ii). |

| **Agricultural Finance Examples** | **iDE Zambia** | ✔️ | iDE facilitated conversations between organized farmers and a micro-finance institution called CETZAM Financial Services PLC to design a loan product that, despite initial pilot failures, ultimately resulted in a loan recovery rate of 97.2% over a 15-month period. Key features of the successful model include: 1) training of participating farmers in |

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sound agronomic practices; 2) a group guarantee; 3) loan officers with agronomic backgrounds who are trained to spot trouble early and subsequently get farmers the support they need to succeed; 4) postharvest payments and a manageable monthly interest rate; and, 5) direct payment from the MFI to local retailers for farmer inputs and technologies (instead of direct lending of cash to farmers). Details are available at [http://www.ideorg.org/OurResults/SuccessStories/Cetzam.aspx](http://www.ideorg.org/OurResults/SuccessStories/Cetzam.aspx).

**Oxfam America and WFP**

Oxfam’s Horn of Africa Risk Transfer for Adaptation (HARITA) project is an example of an agrifinance package that also incorporates agricultural insurance. It combines community natural resource management (risk reduction), weather insurance for farming (risk transfer), micro-finance (“prudent” risk taking), and micro-savings (risk reserves) in an effort to increase the food and income security as well as the resilience of poor smallholder farmers. Farmers pay for their insurance premium either in cash or in-kind with their labor. As of September 2013, R4 covered 20,000 households in 80 villages in Ethiopia and was being piloted in 500 households in Sengal.²²

**Grameen Foundation**

The Grameen Foundation has piloted a Community Knowledge Worker (CKW) program in Uganda. This project put smart phones in the hands of local Ugandans in an effort to bridge the information gap experienced by smallholders. CKWs brought information to farmers (such as extension and market prices) and also gathered information from farmers (such as crop production forecasting for the Uganda Commodity Exchange and market information for the World Food Programme. Lessons from this effort can be found in the pilot report at: [http://www.grameenfoundation.org/resource/community-knowledge-worker-pilot-report](http://www.grameenfoundation.org/resource/community-knowledge-worker-pilot-report).

**Pearl Capital Partners**

Pearl Capital Partners (PCP) is an independent investment fund manager and part of the growing field of impact investing. It is a for-profit enterprise, however its investments are chosen for their ability to produce both financial returns and social impact. PCP focuses on supporting currently profitable, small- and medium-sized (SME) agribusinesses that are looking for expansion capital; these businesses must either sell inputs to smallholders or buy outputs from them. As an investor, PCP owns shares in the businesses it works with and sits on the board of those companies to help guide successful decision-making. If the business needs specialized technical assistance, PCP looks for SME business grants (such as those from USAID) to secure needed support. Although average private equity returns range from 25-40%, PCP’s returns are closer to the high teens.

**Farmer Groups Examples**

**Land O’Lakes**

Land O’Lakes International Development helps build and strengthen producer and farmer groups in Africa. It provides organizational capacity building, business development, and financial and market information support to these organizations. Land O’Lakes helps producer and farmer groups develop a sustainable business plan and connects them to MFIs for finance. The goal of this support is for the organizations (especially dairy associations) to operate independently and development ownership of their organization, both of which are preconditions for sustainability. In Uganda and Kenya, the Cooperatives Development Program promotes vertical and horizontal integration for dairy farmers in order to maximize efficiency gains and the benefits of value addition. More information is available.

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²² World Food Program (WFP) and Oxfam America, R4 Rural Resilience Initiative: Quarterly Report July – September 2013.
CEDO

The Community Enterprise Development Organization (CEDO) in Rakai, Uganda works with farmer groups of 10-100 people who work together to market staple crops such as maize and beans. These smallholders bulk their product, work together to ensure it meets a certain quality standard, and market it to preferred traders. These farmers received, on average, 10-15% more profit than when they sold individually to local traders, a margin that outweighs the extra effort of sorting.  

Postharvest Examples

CNFA

CNFA is the implementer of USAID Farmer-to-Farmer program in Uganda. It provides volunteer technical assistance to the Ugandan Pakanyi United Farmers’ Cooperative Society (PUFCO) in using moisture meters, drying grain on plastic tarps, and constructing corncribs at the household level to allow for proper drying and storage. This has enabled PUFCO farmers to reduce postharvest maize losses by 33% and demand double the average open market price. Additional details can be found at http://www.cnfa.org/resource/ugandan-cooperative-improves-post-harvest-training-and-increases-sales-by-58/.

Joseph Initiative

The Joseph Initiative operates a large-scale grain processing and storage facility outside of Masindi. It also operates aggregation hubs called “Joseph Centers” across Uganda, where farmers can store their grains for sale in the formal market as well as receive services such as extension and access to finance. Joseph Centers provide a premium price for both a higher quality and larger quantity of grain.

Mercy Corps

Mercy Corps works to help smallholders in Karamoja (northern Uganda) using an M4P approach. In Karamoja, over 50 grain storage units stand empty, abandoned after previous failed projects (some community-based, some sponsored by NGOs). Mercy Corps connected private sector actors to the communities who owned these abandoned grain stores to get some of the units functioning and serving the aggregation and storage needs of local farmers. The theory is that profit motivations will incentivize these businesses to keep the grain stores open, and that their functioning will generate income for local smallholders. This relationship should persist beyond Mercy Corps’ engagement.

GADC

The Gulu Agricultural Development Company (GADC) is a cotton gin that sources from over 50,000 smallholders in the Gulu District region. GADC buys from local farmers but sells to international buyers—thus acting as a bridge between the smallholder and a more lucrative market. GADC supports its farmers with training and inputs. GADC pays a 20% premium to smallholders who produce quality, organic cotton. Both Acumen and Root Capital have helped support GADC financially. More information can be found at http://acumen.org/investment/gulu-agricultural-development-company/ and http://www.rootcapital.org/portfolio/stories/rebuilding-lives-post-conflict-uganda.

WFP

The World Food Programme’s (WFP) Purchase for Progress (P4P) program links farmers to markets. It trains farmer organizations to produce cereals that meet minimum quantity, quality, and safety standards so that the WFP can purchase those cereals for use in its food and nutrition security activities. In addition, WFP is also supporting Ugandan farmers by expanding feeder roads and constructing improved postharvest storage facilities. In January 2014, the WFP

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73 Robbins et al., “Collective Marketing for Smallholder Farmers.”
announced the commissioning of a new grain storage and processing facility in Jinja, Uganda as part of a larger partnership with the GOU to make storage and warehouse receipt systems (WRS) available to more smallholders with the goal of building these farmers’ capacity to access formal markets

<table>
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<th>Other Examples</th>
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<tr>
<td><strong>IFAD</strong></td>
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<td>Under its Vegetable Oil Development Project, IFAD supports farmers growing crops for vegetable oils such as palm and sunflower. It aims to link these farmers to millers and markets. IFAD has helped establish the Kalangala Oil Palm Growers Trust (KOPGT) to represent the farmers and, through a public private partnership, has partnered with Oil Palm Uganda Limited (OPUL) to process palm into palm oil and with BidCo to provide farmers with technical support.</td>
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<tr>
<td><strong>MAFDA</strong></td>
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<tr>
<td>Masindi District Farmers Association (MAFDA) is a Ugandan farmer cooperative that runs a seed company as well as a saving and credit association. The seed company was started in 2009 to supply quality seeds throughout Masindi in a timely fashion. Currently, it also supplies seeds to national and multinational corporations (such as NASECO seeds and the Farm Inputs Care Centre Ltd.) and has connections with NGOs as well. The pricing of the seeds is determined by MADFA’s board, which includes some of the association’s farmers as board members.</td>
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<tr>
<td><strong>ACDI/VOCA</strong></td>
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<td>In an effort to help mitigate the impact of climate change on smallholders, ACDI/VOCA has incorporated “climate-smart agriculture” (which others call conservation agriculture) into its project design and implementation. These techniques include conservation tillage (to maintain soil fertility, reduce erosion, and support water management), drought-resistant seeds, and environmentally-friendly fertilizers, among others. In ACDI/VOCA’s Kenya Maize Development Program (KMDP), demonstration plots are used to share conservation tillage and natural resource management techniques with smallholders. This extension work is part of a broader program that includes the facilitation of new market linkages between farmer organizations and private sector actors. More on this can be found at <a href="http://www.acdivoca.org/site/ID/kenyaKMDP">http://www.acdivoca.org/site/ID/kenyaKMDP</a>.</td>
</tr>
<tr>
<td><strong>Engineers Without Borders</strong></td>
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<td>Engineers Without Borders (EWB) has experimented with a variety of ways to support adaptive learning among its staff while facilitating M4P projects in what it describes as “complex systems.” For a practical discussion of adaptive techniques, see Amir Allana from EWB Canada at <a href="http://usaidlearninglab.org/events/building-blocks-learning-organizations-enabling-flexible-adaptive-development-programming">http://usaidlearninglab.org/events/building-blocks-learning-organizations-enabling-flexible-adaptive-development-programming</a>.</td>
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Annex D: Data Collection Instruments

Desk Interviews

Prior to each interview, our team sent 5-6 questions to the interviewee. At the beginning of each interview, the interviewer explained the introductory content below, then moved on to a specific set of questions tailored to the interviewee.

Introductory Protocol

Thank you again for meeting with us today – we really appreciate you taking the time.

The material I’d like to cover with you will probably take about 45 minutes to an hour. How much time do you have?

If it would be helpful, I can start by giving you some very brief background on the work we are doing for BRAC. Are you familiar with BRAC? [Explain as needed74.]

The purpose of our consultancy is to analyze BRAC’s model for agricultural development, primarily in Uganda, within the landscape of other market-based approaches in East Africa. Essentially, we’re looking at what different organizations and programs are doing to identify best practices along the value chain.

We’re interested to hear about your approach to agricultural development work and about the lessons you’re learning from project implementation.

Before we begin, I want to cover one housekeeping note on confidentiality. The level of confidentiality is your choice. We’ll automatically assume anything you say is for our background purposes only and if there is something specific that we feel would be value to attribute to you, we’ll ask your permission. As we type up all of our notes for analysis, we’ll also anonymize the data so that your name is not associated with any background information you provide. Are you comfortable with that approach?

Illustrative Interview Questions

While each set of questions was tailored to the organization (and to the interviewee if their expertise was unique), our team followed the outline below to the greatest extent possible to achieve a minimum level of consistency across interviews.

Personal Background

- What is your role within [organization name]?

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74 BRAC is an NGO based in Bangladesh with a growing presence in Asia and Africa. BRAC has multiple agricultural development programs in sub-Saharan Africa, but our work is focusing on their programs in Uganda and Tanzania. BRAC Uganda works with farmers to help them improve their productivity (through training, new technology, and increased access to both information and inputs), reaching a large number of farmers through their microfinance platform that is present throughout the country. BRAC Tanzania has been operating since 2006 and is in the early stages of implementing a new program focusing on raising incomes of smallholder farmers through increased access to inputs and linking them with input service providers, buyers, and traders.
What kind of similar or related work have you done previously?

Organization’s Approach

1. How would you describe the approach of [project name]? (1a) [If interviewee cannot speak to specific projects, ask about organization’s general approach to agricultural development projects]
   - What do you consider the strengths of this approach?
   - Why have you chosen to focus on that aspect?
   - Do you see the potential for any weaknesses or gaps in this approach?
   - What opportunities do you see (for scaling up, or implementing new ideas)?

2. Does your organization look at return on investment and cost-effectiveness? (2d)
   - How do you measure them? What are your benchmarks/targets for these metrics?
   - Please tell us about your efforts to increase efficiency, lower costs, and/or increase returns?
   - What’s working well? Why? What hasn’t worked? Why?

3. What do sustainability and resilience mean in the context of your program? (2c, 2e) [If the response lumps both together, probe about ‘sustainability and resilience.’ If the response distinguishes between the two, probe on each individually.]
   - What are the greatest sustainability/resilience challenges faced by your programs?
   - How do you measure sustainability/resilience?

Landscape of Other Actors

4. Are you aware of other organizations that are doing similar or related work in East Africa (especially Tanzania/Uganda)? (1a)
   - Do you have any formal or informal partnerships with them, either in implementation or knowledge sharing?

5. What do you think are the most interesting innovations in market-based agriculture approaches? Who else is doing interesting work in East Africa? (1a)
   - What is it about their work that you find innovative?

6. What are some best practices you can identify as crucial to successful agricultural development, either from your organization or from what others are doing? (1b)

M4P Questions (for organizations that explicitly stated they’ve adopted an M4P approach)

- What are some of the best examples of agricultural M4P projects? What makes them good?
  - What are some of the most challenging examples? What do they struggle with?

75 Denotes the research question(s) to which the interview question corresponds. See Annex A for a list of research questions.
What are the biggest challenges faced by a typical value chain minded organization as it attempts its first M4P project?

Within an M4P framework, how should organizations think about sustainability, resilience, and return on investment?

How does your organization think about "facilitation" and "crowding in"?

Uganda and Tanzania Interviews

The following outlines the list of interview questions from which our team drew when conducting interviews in Uganda and Tanzania. As not all questions were asked in every interview, the lists below are illustrative. Based on the specific content discussed in each interview, the interviewer also asked additional follow-up questions, which are not listed here since they varied across interviews. In all interviews, we informed participants that their responses would be anonymous, no one but our team of four people would read the notes, and that we would not quote anyone directly in our report.

BRAC Beneficiary Questions

Introductory Questions (for individual farmers and farmer focus groups)

- How big is your farm?
- What crops do you grow?
- Where do you get your seeds from?
- Where do you sell your crops?
- What is the average size of land plots in your community?
- What have been some of the successes of farmers in this region in the last few years? Challenges?

BRAC Questions

- How did you first learn about BRAC?
- What is your connection to BRAC?
- What is the best part about working with BRAC?
- What challenges have you faced working with BRAC?
- What is one thing that BRAC could do better?
- Would anything be different in your life or this community if you were not working with BRAC?
  - If No: Why?; If Yes: What would be different?
  - Would you find somewhere else to borrow money?
  - [For CAPs] Would you continue your work with other farmers?
  - [For Lead Farmers] Would you continue to teach other farmers around you?

Do you work with any organizations besides BRAC?

- What does that organization do?
- What do they do very well?
- How do you think that organization compares to BRAC?
- What does it do differently than BRAC?

Resilience Questions

- Do you get enough rain for your crops? Has the amount of rain changed in recent years? What
about when it rains?
  o How does the rain impact your crops? Your family?
  o What would make it easier to deal with the rain?
• Has the price of seeds ever risen suddenly? How did you deal with that?
• Has the sale price of your crops ever dropped suddenly? How did you deal with that?

BRAC Staff Questions

For all BRAC staff

Introductory questions
  o How long have you worked with BRAC?
  o What did you do before BRAC?
  o What is your role with BRAC?

BRAC’s agricultural work
  o What areas of farming is BRAC most active in?
    o Why has it chosen those areas?
  o Are there other areas you feel like BRAC should include?
  o What are the differences between women and men farmers?
    o Does BRAC make any special efforts to support women farmers?
  o How poor is the average BRAC farmer? Do BRAC’s projects work with the poorest farmers?
    o What are the challenges associated with working with such poor farmers?
  o Have you seen BRAC farmers experience shocks like natural disasters or price spikes for inputs or crop prices?
    o How have the farmers responded?
  o If BRAC had to stop working with local farmers, would anything change in the lives of those farmers? Why/How?
    o Could they get loans other places?
    o Would they seek training other places?
    o Where would they get seeds and other inputs?
    o Would they still sell their crops in the same markets?

BRAC Analysis
  o How does BRAC compare to other organizations that work with farmers in [country]?
  o What would you say is the biggest impact BRAC is having on the farmers you work with?
    o How is BRAC able to measure this impact?
    o What are the challenges of measuring this impact?
  o What does BRAC do best?
  o What do you think BRAC could do better?
  o Should BRAC start more agricultural businesses? Why?
  o Is there anything else you think we should know about BRAC’s work?

For BRAC leadership only
  o How would you describe BRAC’s approach to agricultural development in Tanzania/Uganda?
  o How would you describe BRAC’s work with the private sector?
    o What would you say is the private sector’s opinion about BRAC?
• Are there any opportunities for BRAC to do more with the private sector?
• How would you describe BRAC’s work with the public sector?
  • What would you say is the public sector’s opinion about BRAC?
• Are there any opportunities for BRAC to do more with the private sector? Public sector?

For BRAC branch/field staff only
• How do you like working with smallholder farmers?
• During the course of a normal week, what kinds of things do you do with farmers?
• Are you familiar with BRAC’s seed business? What do you think of it? If BRAC didn’t sell affordable, quality seed, who would sell the seed to the farmers?
• How does BRAC connect smallholder farmers to other actors in the market such as input suppliers and crop buyers? (Tanzania only)
• Do you think the market linkages BRAC is helping create will continue after BRAC has completed its project? Why is that? (Tanzania only)

Development Actor (Donors, NGOs, et al) Questions
• Introductory questions
  • How long have you worked with _____?
  • What did you do before _____?
  • What is your role with _____?
• How would you describe the approach of ____________’s agricultural development work in Uganda specifically?
  • And East Africa more broadly?
• What areas of the agricultural value chain does ____________ focus on?
  • Why has it chosen those areas?
• What are the most challenging aspects of designing and implementing agricultural development projects in Uganda?
• When working with smallholder farmers, particularly women, what efforts have proven most effective? What have proved to be ineffective?
• How does ____________ think about return on investment? What about cost-effectiveness? Resilience? Sustainability?
  • How do you measure them?
• Are you familiar with BRAC’s agricultural projects here in Uganda? What do you think are its strengths? Challenges?
• Outside of your organization and BRAC, what do you think are the most interesting innovations in market-based agriculture approaches? Who else is doing interesting work in East Africa?
• Where do you think this kind of work will go in the next 5-10 years?
  • Do you anticipate any shifts in focus?

Social Enterprise and Private Sector Questions
• What is your role with _____?
• How long has your business operated?
• Overall, what kind of services/products does your business provide?
- What products/services do you provide most to smallholder farmers in rural areas?
- What portion of your business are these smallholder farmers?
- How is working with these smallholder farmers?
  - Is it different from working with large-scale farmers? How?
- What role does BRAC play in your work with smallholder farmers?
- Would you continue to work with them if BRAC were not involved?
- What would you need to increase the number of smallholder farmers that you work with?
- What are the risks involved in working with smallholder farmers?
- What helps lower that risk?
  - In the last few years, has the risk increased or decreased? Why is that?
- What helps increase your profits?
  - In the last few years, has your profit increased or decreased? Why is that?
- Do you have any partnerships with other companies or organizations?
- In your business, what kind of competitors do you have?
  - What are the major differences between your business and theirs?
  - Do they work with smallholder farmers? Why or why not?
- What advice do you have for BRAC about the products/services they provide for smallholder farmers?

**Public Sector Questions**
- Please describe your work as it relates to agriculture in Uganda. [Ask a more specific question whenever possible based on background research about the ministry/department/etc.]
- What are your priorities? Why?
  - How does your work connect to the government’s main policies?
- Can you describe some of your programs recent successes?
- What are some of the unique challenges related to working with smallholder farmers?
- Do you partner with the private sector in your work? How/doing what?
  - Why do you do it?
  - What works well?
  - What could be improved?
- Do you partner with the NGOs or international development organizations? How/doing what?
  - What works well?
  - What could be improved?
- Do you work with BRAC specifically? How/doing what?
  - What works well?
  - What could be improved?
- Looking forward, what more help do you believe smallholder farmers need in order to grow more crops?
  - [If there is time and interest, explore resilience, sustainability, and return on investment.]
- How would you describe the government’s vision for agriculture 5-10 years from now?
  - What will be necessary to make that vision a reality?
Annex E: Interviewee List

Desk Interviews (for Landscape Analysis)

- ACDI/VOCA
- CSIS
- DAI
- Gates Foundation
- iDE Zambia
- IFAD
- IFPRI
- Kenya Markets Trust
- Land O’Lakes
- One Acre Fund
- Oxfam America
- SEEP Network
- Springfield Center
- TechnoServe
- USAID

Uganda Interviews

Landscape:
- Engineers Without Borders
- GIZ
- Harvest Plus
- IFAD
- JICA
- Mercy Corps
- TetraTech
- World Bank

BRAC Beneficiaries:
- 12 MFs
- 2 CAPs
- 4 GFs
- 1 Contract Grower

BRAC Staff:
- 5 Branch Field Staff
- 11 Area Coordinators
- 1 Regional Coordinator
- Agriculture Program Management Staff
- Monitoring Unit
- Research & Eval. Unit

Government of Uganda:
- Ministry of Agriculture
- NaCCRI

Private Sector Actors:
- 4 agrodealers
- East Africa Seed Ltd.
- Joseph Initiative
- MADFA
- Pearl Capital Partners
- Ugandan Seed Traders Association

Tanzania Interviews

BRAC Beneficiaries
- Lead farmer focus group
- General farmer (GF) focus group
- 1 demo farmer
- Focus group of Community Poultry Promoters (CPPs), lead farmers, & GFs

BRAC Staff:
- LEAD management staff in Dar es Salaam office
- Ruaha branch Program Organizers and Area Coordinators
- Monitoring Unit
- Research & Eval. Unit

Government:
- Ministry of Agriculture
- Municipal Agriculture and Livestock District Officer

Private Sector Actors:
- 1 agrodealer
- 1 trader
- 1 trader association
- Yara fertilizer company