

REVISED REPORT

Post-Compact Assessment of Agricultural Investments under the First MCC Ghana Compact: Financial and Social Analysis of Agribusiness Centers

DATE
APRIL 12, 2016

PRESENTED TO:
THE MILLENNIUM CHALLENGE
CORPORATION

PRESENTED BY:
NORC AT THE UNIVERSITY OF
CHICAGO



at the UNIVERSITY *of* CHICAGO

Table of Contents

Acronyms	0
Introduction	1
I. MiDA Postharvest Handling Activity.....	2
II. Assessment Purpose and Scope.....	6
III. Sample Selection and Fieldwork.....	9
IV. Analysis.....	11
IV.A. ABC Throughput, Viability, and Sustainability	12
IV.A.1. Viable ABC Business Model: Shekina ABC.....	17
IV.A.2. ABC Performance Summary Discussion and Analysis	18
IV.B. Benefits Derived by FBO Members and Factors Limiting the Use of ABCs by Target Clientele	28
IV.C. MiDA Project Design and Implementation Issues	31
V. Findings and Conclusions	34
Findings	34
Conclusions	35
VI. Recommendations and Lessons Learned	37
Recommendations	37
Lessons Learned	38
ANNEX 1. Scope of Work.....	40
Post-Compact Assessment of Agricultural Investments under MCC Ghana Compact Interim Financial and Social Analysis of Agribusiness Centers.....	40
LOE Summary - interim financial and social analysis of the operations of ten ABCs	42
Output 42	
ANNEX 2. Supporting Tables	43
ANNEX 3. Work Schedule.....	45
ANNEX 4. Persons Interviewed.....	49

ANNEX 5. KII and FGD Guides	51
ABC RESPONDENT INTERVIEW QUESTIONS	51
FBO LEADER INTERVIEW QUESTIONS.....	52
Focus Group Discussion Guide.....	53
ANNEX 6. MiDA Agribusiness Center Operational Guidelines	56
1. Agribusiness Centres Background	57
1.1. Components of the Agribusiness Centres	57
1.2. Selection of Beneficiaries.....	58
1.3. Rationale for the Agribusiness Centres (ABCs).....	59
ANNEX 7. Summary ABC and FBO Interviews.....	62
Northern Zone.....	62
<i>BUSAKA ABC</i>	62
<i>FARANAYA ABC</i>	66
<i>KARAGA ABC</i>	70
<i>SAVBAN ABC</i>	74
<i>SHEKINA ABC</i>	77
Afram Basin Region	81
<i>AFRAMCO ABC</i>	81
<i>DOME-AFRAMSO ABC</i>	84
<i>VICTORY FEED ABC</i>	88
Southern Horticultural Zone	92
<i>SEED SHOP ABC</i>	92
<i>QUALITY AGRICULTURAL SERVICES ABC</i>	96
<i>MIDA STAFF INTERVIEW SUMMARY</i>	99
ANNEX 8. Breakeven Analysis	102
Breakeven Analysis Methodology	102
ANNEX 9. Reviewer Comment Tracker	104

Acronyms

Acronym	Meaning
ABCs	Agribusiness Centers
ADVANCE	USAID Agricultural Development and Value Chain Enhancement Project
AGDEP	Ghanaian Association of Church-based Development NGOs
AGSL	Agricultural Support and More Ltd
ATT	USAID Advanced Technology Transfer Project
BEP	Breakeven Point
BoD	Board of Directors
CP	Conditions Precedent
CPDF	Community Planning Development Foundation
FBOs	Farmer-based organizations
FTF	USAID Feed the Future Program
GAP	Good Agricultural Practices
GHC	Ghana Cedis (currency)
GoG	Government of Ghana
ICCO	Interchurch Organization for Development Cooperation (Dutch)
IPPC	International Plant Protection Convention
IPSL	Investment Protocol Services Ltd.
Ltd	Limited liability company
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MiDA	Millennium Development Authority
MoFA	Ministry of Food and Agriculture
NGO	Non-Governmental Organization
NORC	National Opinion Research Center
PAS	Presbyterian Agricultural Investors
PI	Private Investor
PTO	power take off (farm tractor)
SADA	Savannah Agricultural Development Authority
SFMC	Savannah Farmers Marketing Company
SOW	Statement of work
TP	Throughput
TTSP	MiDA Technical Training Service Provider
US	United States
USAID	United States Agency for International Development

Introduction¹

The United States Government through the Millennium Development Authority signed a US\$547 million grant agreement with the Government of Ghana in August 2006 to help reduce poverty through economic growth led by Agricultural Transformation. The program had a two pronged set of objectives aimed at increasing productivity of high value cash and staple food crops and enhancing the competitiveness of crops on the local, regional and international markets. The Program had three projects: Agriculture, Transportation and Rural Development.

The Agriculture Project had six components, one of which is Improvement in Postharvest and Value Chain Services Activities. This report presents results from the post-compact social and financial analysis of the Postharvest and Value Chain Services Activities which included the construction of ten agribusiness centers (ABCs) by the Ghanaian Millennium Development Authority (MiDA). ABCs were organized as limited liability companies (Ltds) under a joint venture legal structure including a private investor (PI) and representatives of a farmer-based organization (FBO) organized as a business cooperative.

¹ Field data collection forms were prepared and field interviews conducted by the NORC's Lead Foreign Consultant, Tom Easterling, and by Ghanaian assessment specialist Nana Ama Aning. All field interview notes were prepared by the field team. Due to subsequent health issues, Mr Easterling was unable to participate in writing the final report, which was completed by Mr. Fritsch.

I. MiDA Postharvest Handling Activity

The principle underpinning ABC creation is the establishment of a collaborative relationship between producers (mainly FBOs) and buyers that will reduce transaction costs for both parties, improve quality and efficiency in the processing and marketing of products, and facilitate access to inputs for farmers. The Centers could facilitate access to farm inputs for farmers on partial or full credit with grain buyers able to more readily obtain the grain and pulses necessary to fulfil product orders requiring improved quality.

By establishing ABCs as joint ventures between PIs² and FBOs with the support of public funds, MiDA intended to move away from the traditional approach of establishing such centers where the interests and needs of smallholder farmers are not fully taken into account. Traditional approaches focused on providing the infrastructure, equipment, and working capital to maximize the purchase and trade aspect of the business. Few of these enterprises worked with farmers to maximize their production in the field or to provide farmers access to inputs and storage. By moving away from the traditional business model, MiDA expected that ABCs would reduce market imperfections and enhance benefits for all value chain participants and in particular farmers and their organizations³.

The construction of the ten MiDA-funded ABC facilities – five located in the Northern Zone, three in the Afram Basin, and two in the Southern Horticultural Zone – were scheduled for completion in 2010. However, construction was delayed by two years, as the Government of Ghana (GOG) did not meet an important Condition Precedent (CP) that required amendment of existing legislation. Consequently, ABC construction was not completed until mid-2012, which was several months after Compact completion on 15 February 2012.

The objectives of the ABCs, as defined by MCC and MiDA are to:⁴

- Provide services such as shelling, cleaning, drying, grading, and storage of staple food crops for small scale farmers and FBOs;
- Create the opportunity for farmers to produce for a “structured market”;

² The term private investor (PI) used in the MiDA guidelines and in this report, is considered to be synonymous with the term “anchor investor” that is used in the assessment questions.

³ This discussion is adapted from the MiDA “Operational Guide for Implementation of the Agribusiness Centers” September 2011, Annex 6).

⁴ Taken from MiDA “Operational Guide for Implementation of the Agribusiness Centers” September 2011, Annex 6

- Bring to each center the management experience, value chain expertise and business contacts from the private investor to render the centers profitable and sustainable;
- Introduce weighing and standardization in the marketing of grains and pulses to create transparency in transactions, build confidence among smallholders and increase profitability of grain marketing.

To attain these objectives ABCs were to be sited on a minimum of one acre of land to be provided by PIs as a part of their counterpart contribution. MiDA provided funds to construct facilities and provide equipment to realize a combination of the following:

- Structures that would permit compartment storage units for grains and pulses to ensure that operators of the centers can maintain the trust of FBOs and their members for the purposes of sustainability and continuous patronage of the facility⁵;
- Equipment consisting of mobile shellers for maize, rice mills with de-stoners, weighing scales, loading docks, sorting, grading, drying areas and other facilities that will facilitate handling of grains and pulses;
- Retail shop for sale of farm inputs to farmers;
- Offices and rest rooms;
- A shed for housing tractors, trailers, mobile shellers, and other equipment;

Prior to implementing the Postharvest Handling Activity MiDA records indicate that comprehensive training was provided to 66,930 smallholder FBO members. Females represented about 48% of the trained farmers. Topics addressed included group management principles, good agricultural production practices, farm business recordkeeping, and marketing – including product handling and preservation, packaging and transportation. Each farmer received a “starter pack” of fertilizer and improved seed to plant one hectare of maize. Using a competitive and transparent process and selection criteria, MiDA selected FBO candidates, to partner with ABCs, from among the FBOs receiving previous training and operating within a 20 km radius of the selected ABCs.⁶ Selection criteria included perceived ability to understand good agricultural practices and farm business management skills, demonstrated ability to work effectively within the group structure, and having a satisfactory credit profile.

Selected FBOs had up to 50 members each, were originally organized by the Ministry of Food and Agriculture (MoFA). To participate in the ABC, they were subsequently registered as legal cooperatives by the Department of Cooperatives, Ministry of Employment and Social Relations, primarily within a

⁵ In practice, ABC storages were built with 1,000 metric ton capacity.

⁶ The baseline farmer survey revealed that this is not always the case as some growers were located well beyond the 20 km radius.

single geographic farming community. FBO objectives included: a) facilitating group decision-making and engaging in joint action to improve member economic well-being by conducting activities such as sharing of fieldwork, joint input purchase to gain bulk discounts, and joint commodity marketing, b) coordinating yield-increasing technical production and other training; and c) serving as an umbrella community group to organize and observe social events including weddings, funerals and other community activities.

MiDA, using criteria including previous postharvest handling and marketing experiences and participation as FBO training contractors, selected ten business entities or Private Investors (PIs) to serve as majority owners of the joint venture limited liability (Ltd) companies. Minority ownership was held by smallholders through their FBOs. Thus, each ABC was expected to partner with approximately 1,000 smallholder farmers within a joint venture limited liability business organization. For project purposes, the 20 FBOs selected for each ABC were organized into a new legal apex organization, the FBO Union, with elected officials to represent the FBO on the ABC Board of Directors (BoD).

The PI held 70% ownership equity with the FBO Union of smallholders holding 30%. The PI appointed three members to the six-member BoD and the FBO Union appointed two members. The MoFA District Agricultural Officer was a non-voting *ex officio* sixth member and was required to submit a Quarterly Report on ABC operations to the MOFA Regional Director. PI equity consisted of one acre of land for locating the ABC facility along with a truck and a cash investment of Ghana Cedis (GHC) 50,000⁷ to cover the ABC's labor and administrative costs for an initial six months operating period. This investment was calculated by MiDA at 40% of total PI equity⁸. Each FBO member was required to contribute a 50 kg bag of maize or paddy rice (depending on the crop served by the ABC), that provided 10% of the total member equity. Proceeds from the accumulated value of the grain (up to 50 mt) was to be held in an ABC escrow account to serve as security for smallholders taking out bank loans for purchasing inputs or equipment. The remaining 30% equity for the PI and 20% for the FBO Union was provided by a MiDA grant to construct the ABC facility and purchase the initial postharvest processing equipment, a farm tractor and fittings to connect to electric power lines and install a water supply. Each ABC received a complement of MiDA-provided specialized equipment for processing rice and/or maize, with the understanding that additional equipment may be purchased by the ABC to handle other grain crops, such as soybeans, as operations expanded.

⁷ Approximately US\$36,000 at official exchange rates prevailing in early 2012.

⁸ This figure is taken from the draft Shareholder Agreement provided by MCC. Other MiDA documents refer to a PI contribution as 50% of the total PI equity)

The Shareholder Agreement signed by each party provided the responsibilities and rights of each party to the agreement with respect to supporting ABC sustainability and profitability. At the end of the compact, MiDA legally transferred the assets (the facility and equipment) to the respective ABCs.

II. Assessment Purpose and Scope

The purpose of this phase of the MCC post-Compact assessment is to provide a financial and social analysis of the ten ABCs and the services provided to their affiliated smallholder farmers. The analysis includes responses to the following technical questions contained in the assessment scope of work⁹.

- a.) What does a viable business model look like for an ABC? What is the break-even point for revenue and throughput?
- b.) Are the ABCs working with both the anchor investor and FBO farmers as intended? Are their customers largely coming from within a 20-km radius?
- c.) What factors limit their use, as well as the benefits derived by small-scale farmers from MCC's investments in the ABCs? What action could be taken to increase their use by smallholders?

We use the MCC/MiDA-defined ABC objectives in the previous section as the criteria for assessing their viability under question a), and for assessing ABC/FBO synergy and cooperation under question b).

Using this approach, a viable ABC is one that successfully provided postharvest handling services mainly to FBO farmers during the period prior to this assessment. ABCs that are or could be economically viable outside the framework of the objectives and operational requirements defined by MiDA are not considered to be viable because their viability is dependent on the fact that it deviated from the project objectives. For example, ABCs primarily serving farmers other than the intended FBO smallholders are considered to be non-viable regardless of their actual financial status because they are not viable under the structure defined by MCC and MiDA, and do not meet the objective of primarily serving FBO farmers. ABCs that become financially viable by providing land preparation tractor services also are not considered under this analysis to be viable as tractor services are not considered as part of the postharvest handling services being assessed.

As developed more fully in Annex 8, break even points (BEPs) for each ABC are calculated in response to question a) using available ABC income statements and throughput data, when available. In the absence of formal accounting data, the assessment team used triangulation interpretation of information

⁹ The original SOW for this evaluation included two additional questions: (1) Using that definition of “viable”, how would one or multiple non-viable ABCs affect the power of the survey? How many of the ABCs would need to be viable to detect an effect? and (2) If fewer than intended FBO farmers are using the ABCs, how does that affect the end-line performance evaluation? In light of the fact that only 5-10 percent of small holders were using the services of the ABCs; and only two ABCs were financially strong (the others were financially weak and limping along, while the one was inactive), we agreed with MCC to not include the two questions in this report.

provided by several ABC respondents to formulate an informed estimate of firm financial health and future sustainability.

We take into account that PIs were expected to have a continuous engagement with FBOs to improve their understanding and ensure effective collaboration. MiDA Guidelines indicated that the joint venture relationship between ABCs and FBOs was designed to move away from a traditional approach of establishing postharvest support and marketing centers where the interests and needs of smallholder farmers are not fully taken into account. By moving away from the traditional model, MiDA expected that ABCs would reduce market imperfections and enhance benefits for all value chain participants, and in particular farmers and their organizations. This collaborative joint venture relationship was expected to reduce transaction costs for both parties, improve quality and efficiency in the processing and marketing of farm products and facilitate access to inputs for farmers, including access to credit. Hence, the ability to provide postharvest handling services, to the joint venture FBO farmers is a key consideration describing ABC viability.

The expected complement of ABC services included maize shelling or paddy rice de-husking, de-stoning, and parboiling; along with drying, cleaning, sorting, selecting, bagging, palletizing, and storing the processed grain. The Activity Guide further anticipated that ABCs would store grain brought to the center by farmers and develop synergies with other stakeholders such as formal and informal financial organizations to facilitate member credit, and with bulk grain buyers purchasing high quality graded products. In this way smallholders could be weaned away from informal local traders offering below market prices and expensive credit conditions, allowing them to gain access to more stable commercial market institutions. A key ABC requirement to covering the costs associated with the provided value adding postharvest services is the ability to sell to buyers of high quality grain such as World Food Program, the Ghana Buffer Stock Company, the national school feeding program, and commercial poultry operators, among others.

MiDA further expected that the joint venture ABCs could expand services to farmers by providing extension and technical assistance, including soil analysis and fertilizer recommendations, and land preparation services. However, these activities were not identified within the initial key ABC objectives, so ABC costs incurred and income gained from them are not considered a viability determinant for the purpose of this analysis and consequently, are not included in the breakeven calculation used to determine financial viability. Annex 8 provides a complete discussion of BEP calculation details.

The three assessment questions are addressed in Section IV Analysis. After responding to questions a) and b) in the first part of Section IV, question c) factors limiting ABC use by farmers and benefits derived by small-scale farmers from MCC's investment are discussed. Actions taken by viable ABCs are identified and presented as a model to serve as a guide for future value chain postharvest handling projects.

III. Sample Selection and Fieldwork

A desk review of documents and other information provided by MCC and MiDA, and information obtained from Internet sources provided valuable background information for this assessment. Fieldwork was carried out in Ghana during February - April 2015 by a two-person team composed of an international agribusiness consultant and a Ghanaian assessment specialist. A total of 176 individuals participated either in in-depth interviews or Focus Group Discussions (FGD).

The entire universe of 10 ABCs were included in the field work and the assessment team completed site visits to all of them. Key informant interviews were held with the PIs associated with the 10 ABCs, (some who lived in Accra), all ten ABC field managers, and with 26 FBO leaders representing all ten ABCs. Names and responsibilities of all respondents are provided in Annex 4. Interview guides used for the key informant interviews are provided in Annex 5. These interviews were supplemented by discussions with two MiDA staff members who were instrumental in the planning and construction of the ten facilities, 11 local and national MiDA representatives and other ABC center associates, along with three grain buyers and five MoFA District Officers that served as non-voting members on ABC Boards of Directors.

Individuals selected for KIIs were selected because of their direct involvement as principals in ABC ownership or management, or as important local competitors. Respondents were advised by the assessment team that their comments or conclusions might be used in a report prepared for MCC, but they would not be attributed to specific individuals.

Focus Group Discussions (FGD) with representative FBO members from each ABC were also conducted. A random sample from among all FBOs associated with each ABC would have been ideal, but this was not possible as many of the original FBOs no longer worked with the ABCs and the limited time frame precluded developing a full universe list from which to draw a sample. Instead, a convenience sample of members from original FBOs identified as ABC co-owners were selected to participate in Focus Group Discussions (FGD) based on recommendations from FBO leaders and local MiDA and MoFA representatives. Eight FGDs with 119 FBO members supplemented the KIIs¹⁰. Using a common set of discussion questions, (Annex 5) FGDs were designed to obtain views of the smallholder farmer population that were beneficiaries of the MiDA Post-Harvest Infrastructure Activity. FGD participants were advised by the assessment team that any FGD comments or conclusions included in a report

¹⁰ FGDs were not held with Karaga and Dome Aframso as FBO members were not available. One FDG was held at each of the other FBO sites.

prepared for MCC, would not be attributed to specific individuals. In all cases FG discussions were lively, with members openly discussing both positive and negative aspects of their experiences as FBO members, as individual farmers, and as ABC joint venture partners. The consistent nature of the responses to the discussion questions led the evaluation team to conclude that a larger group of farmers would not have materially added to the range and objectivity of the responses.

IV. Analysis

Using data collected from KIIs and FGDs, detailed descriptive and analytical performance summaries were prepared for each ABC using a common format that addressed key assessment descriptive and analytical concepts including:

1. **ABC Background:** Describes ABC formation, identifies private investors, services provided, startup problems encountered, synergy with other public and private sector stakeholders, working experiences with FBOs including input supply, credit facilitation, and other provided services.
2. **FBO Member and Leader Assessment:** Describes and discusses FBO leader and member impressions of ABC startup experiences, ABC synergy with other public and private sector stakeholders, ABC working relationships, including input supply, credit facilitation, and other provided services, MiDA and other donor training and support experiences, and FBO organization and effectiveness and experiences with local traders and community product storage and marketing experiences.
3. **ABC Financial and Operating Summary:** Financial accounting data obtained from ABC interviews are used to calculate BEPs for each ABC. In the absence of formal accounting data, the assessment team used triangulation interpretation of responses from several ABC respondents regarding ABC income and profitability to formulate an informed estimate of firm financial health and future sustainability. Following the MiDA viability objectives (Section IV above) BEPs were calculated using income and costs associated with the key ABC primary postharvest handling and marketing criteria.
4. **Synergy with Other Value Chain Stakeholders:** Provides conclusions and implications based on assessment team analysis and interpretation of data and information obtained in items 1 to 3 above.
5. **Operational Impact:** Identifies ABC operating characteristics that relate to meeting the key MiDA objectives (Section I above) used in this analysis to define a viable ABC based on assessment team qualitative and quantitative analysis and interpretation of data and information obtained in items 1 to 4 above.
6. **Sustainability:** Provides assessment team conclusions of ABC long-term sustainability based on analysis and interpretation of financial/operating, synergy, and operational impact conclusions.

Detailed ABC performance discussion documents that discuss each of the six elements listed above are provided in Annex 7 for all 10 ABCs. Below we present summary results. Section IV.A addresses assessment questions (a) “*What does a viable business model look like for an ABC? What is the break-even point for revenue and throughput?*” and (b) “*Are the ABCs working with both the anchor investor*

and FBO farmers as intended? Are their customers largely coming from within a 20-km radius?”

Section IV.B addresses assessment question (c) *What factors limit their use, as well as the benefits derived by small-scale farmers from MCC’s investments in the ABCs? What action could be taken to increase their use by smallholders?*

Section IV.C addresses issues associated with MiDA project design and implementation that were raised by respondents during the field assessment.

IV.A. ABC Throughput, Viability, and Sustainability

Private Investor companies selected by MiDA for majority ABC ownership are presented in Table 1 and displayed alphabetically by ABC name within geographical region. This ABC presentation format is used throughout the discussion. Annex 7 provides in depth ABC summaries following the analytical framework developed above and ABC summary discussions are provided in this Section to provide the reader with details supporting analysis and conclusions drawn by the assessment team.

Table 1: Private Investors Selected for ABC Majority Ownership

PI	ABC Name
Northern Zone	
Investment Protocol Services, Ltd.	Busaka ABC
Presbyterian Agricultural Services	Faranaya ABC
Agricultural Support and More, Ltd. (AGSL)	Karaga ABC
Savannah Farmers Marketing Co.	Savban ABC
AMSIG Resources	Shekina ABC
Afram Basin Region	
Community Planning Development Foundation (CPDF)	Afram Plains Farming & Marketing Co. ABC (Aframco)
Victory Feed	Bonyo Victory Feed ABC
Yahweh Shalom Farms	Dome-Aframso ABC
Southwestern Horticultural Zone	
Quality Agricultural Services	Quality Agric. Services ABC
Seedshop Company	Seed Shop ABC

ABC and farmer interviews and FGDs indicate that most ABCs experienced positive interaction with FBO leaders and members in the initial growing season by providing inputs on credit. (Most ABCs started operating in 2012 but a few startups were delayed to 2013). However, almost all ABCs experienced high initial credit default rates that led most of them to curtail future sale of inputs and credit provision. This, in turn, led many FBO members to forego further ABC patronage in subsequent years.

Based on information gathered during the KIIs and the FGDs, the assessment team estimates that by 2014, less than 5% of the original FBO members delivered grain to the ABC.

ABC leaders were consistent in their view that farmer expectations were initially too high based on previous experience with subsidized input supply credit provided by MoFA, while FBO leaders generally concluded that ABC investors did not fully understand FBO needs. A contributing factor in the ABC/FBO disagreement over credit provisions is that the MoFA price subsidy, which had been provided for several years during the pre-ABC FBO organization and training activity to encourage farmer use of fertilizers, was removed in 2013 and farmers were required to pay market prices. Many farmers blamed the ABC for the input price increase and, since ABCs had not required initial partial advance payment for inputs and had no firm sales contracts with farmers, many sold grain to local traders for cash and bypassed the ABC at harvest. While most ABCs eventually recovered at least part of the provided credit by persistent follow-up with defaulting farmers, some did not and one ABC was forced to close in 2014. The severe credit default problems used up much of the original working capital forestalling ability of many ABCs to purchase grain in the future.

MiDA envisioned that ABCs would provide technical training and support services to farmers as part of the collaborative relationships. Field interviews indicated that at least two ABCs, Shekina and Karaga met these expectations. A successful component of this training was the use of demonstration plots located on land provided by respected community and FBO leaders. Field days where ABC and FBO leaders could talk to farmers and observe crop status were intended to convince farmers to use improved crop management techniques, including improved seeds and appropriate fertilizers.

Farmers and ABC respondent interviews and FGDs concurred that ABC land preparation services and good agricultural practice (GAP) training are now the most popular with farmers. However, these were not considered initially by MiDA as key objectives of the ABCs, but were recognized as useful ABC ancillary services. The one tractor provided was, in all cases, insufficient to meet the actual farmer demand. The majority of farmers and ABC leaders also concurred that most targeted smallholder farmers had limited land resources and the consequent limited production was primarily needed for home consumption. Under conditions of low surplus volume for commercial sale they preferred to store grain at home or in community storage facilities that were more convenient than transporting it to the ABC. Farmers consistently indicated that they did not have available cash to transport grain to the ABC for storage and processing, so consequently preferred to continue selling to local traders who paid cash at the time of sale. Most ABC respondents indicated that lack of sufficient working capital and lack of firm markets prevented them from taking the risk of buying grain on their own account for further storage.

Yet, a few ABCs located in the Northern Zone were able to successfully address these issues and continue to work with original FBO members as discussed below.

Table 2 shows calculated throughput and breakeven point¹¹ data, 2014 operational status, and a summary column regarding ABC experience in meeting MiDA ABC objectives in 2014. Adherence to MiDA ABC objectives is developed for the 2014 season, as this is the most recent ABC experience with FBO members and forms the basis for future planning. In arriving at these conclusions, the assessment team considered both qualitative and quantitative interview data and information gathered from ABC and FBO respondents and organized into the six step ABC/FBO reference document described at the outset of this section.

Table 2. ABC Operational Status, Throughput and Breakeven Positions

ABC	2012		2013		2014			Meets MiDA project objectives
	TP (mt)	BEP (mt)	TP (mt)	BEP (mt)	TP (mt)	BEP (mt)	Operational Impact	
NORTHERN ZONE								
Busaka ABC	--	--	--	--	--	--	Mostly new farmers (mostly women) some credit, buys grain delivered to ABC site, PI provides additional capital, plans to market grain from own farm through ABC	No
Faranaya ABC	--	--	289	--	323	129	Has mostly new farmers, buys grain on own account from new and original farmers, no credit, TP above BEP, one FBO implements own cash reserve program	Yes
Karaga ABC	--	--	7,000	2,317	19,200	NA	Increased original FBO member income, no credit, buys grain on own account, in community, stores in ABC warehouse, provides farmer training, strong business model	Yes
Savban ABC	--	--	1,547	--	590	1,056	Works mostly with new farmers, no credit, buys some maize on own account but prefers to buy soybean, TP below BEP, promote soybean, not profitable but sustainable with new PI capital and expanded clientele base	No

¹¹ The **breakeven point** is the number of products that a firm must service or sell, monthly or annually, to cover its costs of doing business. The entire amount of grain that is sold and serviced by the ABC is defined as its **throughput**. For the purpose of the breakeven analysis, throughput is defined as the cumulative amount of grain that is sold by the ABC, added to the amount conditioned by the ABC through shelling, cleaning, drying, milling, and storing.

ABC	2012		2013		2014			Meets MiDA project objectives
	TP (mt)	BEP (mt)	TP (mt)	BEP (mt)	TP (mt)	BEP (mt)	Operational Impact	
Shekina ABC	--	--	--	--	--	--	Works successfully with original FBOs & others, provides inputs & credit, buys grain on own account in community, provides farmer training, strong business model	Yes
AFRAM BASIN REGION								
Aframco ABC	--	--	--	--	--	--	No credit, poor ABC management, closed in 2014, needs new PI capital and expanded clientele base	No
Dome-Aframso ABC	--	--	1,438	859	313	NA	Works mostly with new farmers, buys some grain on own account, no credit, TP above BEP in 2013, but 2014 TP reduced, sustainable with expanded clientele base.	No
Victory Feed ABC	384	--	372	383	38	NA	No credit, does not buy grain, not profitable, potentially sustainable with expanded clientele base	No
SOUTHWESTERN HORT ZONE								
Seed Shop ABC	130	--	151	--	85		No credit, links farmers to markets, not profitable, low TP, sustainable with expanded clientele base	No
Quality Agr Services ABC	59	--	97	--	165	350	No credit, does not buy FBO member grain, TP below BEP, sustainable with expanded clientele base	No

Note: TP = throughput; BEP = breakeven point.

Missing values: Several ABCs did not have or could not provide the data necessary to calculate BEP and TP.

Throughput data were available for seven ABCs and data to calculate breakeven points were available for six.¹² Of the six ABCs for which data is available, breakeven points (BEPs) varied considerably, from 2,371 mt to 129 mt depending on throughput and fixed cost levels. Two of the six (Faranaya ABC and Karaga ABC) had exceeded their BEP for two years, with three (Savban ABC, Victory Feed ABC, and Dome Aframso ABC) exceeding it in 2013 but not in 2014 because of major throughput declines. Shekina ABC also had positive profit levels. Although Shekina ABC income statements were not available, as all ABC trading and service transactions were managed through the PI in order to reduce FBO liability of the ABC co-owner, discussions with the PI indicated that the ABC was meeting all MiDA defined project objectives.¹³ Busaka ABC, for which limited revenue data were available, had a

¹² A full discussion of the measurement of throughput and the calculation of breakeven points is found in Annex 8.

¹³ The PI assumes the full risk associated with providing input supplies and pays cash for grain purchased locally from FBO members. Interviews with the PI confirmed the success of this activity based on long standing commercial smallholder relationships. The ABC provided only technical services including land preparation, and coordination of farmer training. It does not have a trading account. The PI confirmed its own positive profit position although accounting data was not provided.

positive cash flow in 2013, but a negative one in 2014. Quality Agricultural Services has not yet reached breakeven throughput, Seed Shop ABC, for which only throughput revenue data are available, is not yet profitable based on assessment team discussions with ABC management, and Aframco ABC experienced severe negative cash flows in 2013 and was closed in 2014, in part due to poor management.

Based on the BEP analysis and evaluation of other ABC provided revenue and throughput information the assessment team considered that all ten ABCs, even those that did not meet Activity defined ABC viability objectives, could become financially sustainable in the long run by working with larger, commercially oriented farmers and obtaining additional injections of investment and/or working capital.

By 2014 five ABCs (Dome-Aframso, Karaga, Faranaya, Savban and Shekina) purchased grain on their own account, but only three, Faranaya, Karaga, and Shekina, were considered to be meeting the MiDA's project objectives. Dome-Aframso, by 2014, was working primarily with non-FBO farmers and Savban preferred to handle soybean that is not grown by many of the original FBO members. Busaka, and Seed Shop link farmers to buyers, and work primarily with non-FBO members who tend to be larger and more commercial than the original FBOs. Victory Feed and Quality Agricultural Services do not buy grains, and Aframco had closed down in 2014 pending additional capital investment by the PI.

We note that ABCs located in the Northern Zone had a higher success rate for meeting Activity viability objectives and were generally more successful in forming financially sustainable business operations than ABCs in the Afram Basin Region and the Southwestern Horticultural Zone.

Based on data collected and analyzed the assessment team concludes that a viable ABC/FBO smallholder partnership enterprise is one where:

- a.) the PI is able to sell processed grain to buyers that are able to pay a sufficient price premium to cover ABC postharvest handling and processing costs;
- b.) smallholders follow approved farming practices which have been shown to double traditional yields under normal growing conditions;
- c.) FBOs maintain their own community level storage facility and manage an escrow type fund by setting aside a proportion of grain from the current harvest to provide a fund to purchase the following year's inputs;
- d.) the PI has sufficient working capital to pay cash for farmer's grain stored at community storages, and is able to handle the financial risk associated with transporting, processing and storing grain prior to final sale.

ABCs should also have sufficient tractors to provide the heavily demanded land preparation services.

IV.A.1. Viable ABC Business Model: Shekina ABC

While Faranaya, Karaga and Shekina ABCs, were considered to be operating within the MiDA-defined ABC project objectives in 2014, Shekina was the only enterprise considered by the assessment team to have developed an operational approach that could consistently meet these objectives over the long-term. A discussion of this program follows:

A woman owned company, the PI was organized as a Ltd in 2012 and provided FBO smallholder training to more than 5,000 smallholders in the Afram Basin and the Northern Zone¹⁴. As the PI, it holds 70% of ABC equity and three BoD members, with the counterpart Farmers' Cooperative Union (representing 20 FBOs with about 1,000 members), the minority owner, holding 30% equity with two BoD members. The ABC provides extension services through the dissemination of technology, and links qualified associated FBO members to the formal financial sector for possible credit. The only services requested by FBO farmers are provision of fertilizers and land preparation. For example, in 2012 only two farmers brought grain to the ABC, in 2013 there were three and in 2014, there were four. To meet the land preparation needs, the PI purchased two additional tractors and provides agricultural inputs to FBO members.

The PI, through its own trading account, provided credit in 2012 with mixed results and those defaulting were removed from the list of future beneficiaries. The remaining farmers were required to pay a GHC 50 deposit to receive fertilizer. The PI buys grain on its own account from its associated FBO members and from other farmers to fill outstanding orders, paying them in cash at the time of purchase. Grain is transported to the ABC storage facilities, processed and marketed for its own account. By purchasing grain from farmers in their communities, instead of requiring them to deliver it to the ABC, it had recovered, by 2014, all unpaid accounts from the previous periods. The PI works closely with the Ghana Grains Council to create a credit program for warehouse receipts at the warehouse and its managers are now being trained on the required procedures and it sells to buyers including the National Buffer Stock, the World Food Program, and the national school feeding program. Maize is supplied to poultry farmers, and ground nuts are sold to buyers for processing into health supplements by them.

On the FBO side, all received MiDA training that resulted in more than doubling average yields. Ten of the FBOs also received community warehouses from the World Food Program (WFP) Project, each with 30 mt storage capacity, and are well managed by the local FBO cooperative. FBO respondents indicate

¹⁴ It is not clear from the available information if the PI trained FBOs were subsequently included into the Shekina ABC catchment area.

that they have very good contact with the ABC manager and with the PI who is responsive to FBO member issues. Members pay dues and support each other at social events like weddings and funerals. They also share labor on each other's farms.

The PI has been able to graft the ABC onto its already successful trading company and by buying grain directly from the FBO community storage and paying cash farmers do not pay costs associated with transporting, storing, and processing grain. They are covered by the PI who has the use of the ABC storage and processing facilities. Since sales are to buyers requiring higher quality grain, the PI is able to pay farmers a premium over prices paid by traditional local traders. At the time that grain is purchased, the PI deducts the outstanding fertilizer loan and retains the up-front deposit for the next year's fertilizer purchase. Farmers are provided with a cash payment and the PI obtains firm fertilizer purchase orders.

It is also clear that the FBOs are successfully managing their grain and fertilizer storage requirements, which indicates that they too have developed an effective organizational model. The main disadvantage of the model is that the FBOs do not share in the ABC profit as all financial accounts are maintained on the PI account. Discussions with FBO leaders and members did not indicate that this was a problem as farmers were satisfied with the financial and service arrangements provided by the PI. It is doubtful that the ABC, on its own, could cover the fertilizer credit risk or have sufficient cash flow to absorb the transportation, storage and selling costs associated with handling grain through the ABC. Moreover, the PI covers ABC running costs, equipment maintenance and purchase of new equipment from its own trading account and serves in effect as a subcontractor to the ABC with the farmer benefit being the reduced financial risk profile from not having to self-finance postharvest handling costs associated with commercial grain sales.

IV.A.2. ABC Performance Summary Discussion and Analysis

When reading the ABC performance summaries below, several factors should be kept in mind. The key complement of ABC services anticipated by MiDA to define a viable ABC for FBO smallholders include maize shelling, paddy rice de-husking, de-stoning, and parboiling; along with drying, cleaning, sorting, selecting, bagging, palletizing, and storing the processed grain for future sale. It was anticipated that improved postharvest handling and storage and marketing through ABC facilitation would enable FBO members to realize increased net returns over local sales to traditional traders. The project design anticipated that ABCs would store grain brought to the center by farmers with the ABC marketing grain on the farmer's own account or providing market linkage services to facilitate farmer sales. The expectation was that a) the received price for higher quality grain would be above prices paid by local traders and sufficiently high to cover the accumulated farmer transportation, processing and storage costs

charged by the ABC and b) that ABCs would deduct farmer provided credit for input supply purchases. Interviews with former MiDA staff indicated that the target buyers for ABC procured grain would be organizations such as World Food Program (WFP), Ghana Buffer Stock Company and commercial poultry operators. It was implicitly recognized that sales made to other buyers would not cover the accumulated farmer costs of ABC provided services.

Northern Zone ABCs

Busaka ABC, located in the Northern Zone, is considered by the assessment team as not meeting MiDA ABC viability objectives to the original FBO members in 2014. The ABC now works primarily with a new set of smallholders, successfully providing land preparation and marketing services. Grain is purchased if brought to the ABC. However, FBO leader and member discussions indicated that it is not likely that many smallholders will make use of available postharvest handling services, as it is not in the economic interest of farmers to deliver their grain to the ABC for processing and sale. Despite the ABC financial setbacks, the fundamental business of grain handling, storage, and trading is sound. In the future, the PI plans to use the ABC to store and process grain from his own farm. With additional investment and effective management, the ABC should be sustainable over the long-term.

The lead investor Investment Protocol Services Ltd. (IPSL) is a business consulting and advisory service previously selected as a MiDA TTSP for the FBO smallholder training provider. Income is derived from input and grain sales, warehouse storage, rice milling, and tractor services. Cash flow was positive in 2013 but negative in 2014 on a larger sales volume. This was due to additional working capital provided by the lead investor to cover losses absorbed from smallholder non-repayment of the 2013 credit advance. Income and profit and loss statements needed to derive throughput and BEP calculations were not provided by the ABC staff. Land preparation services were provided to FBO members in 2012 and 2013 along with credit-supported inputs. Due to a high credit default rate among male farmers, input supplies were not generally provided to them in 2014. Records showed that all women receiving 2013 credits repaid the loan and the ABC now works primarily with nearby women farmers most of whom are not original FBO members. The ABC continues smallholder training to these smallholders using demonstration plots located at leading farmer fields. ABC relationships with the FBO remain cordial even in the face of the past input supply problems, but services provided are minimal.

Faranaya ABC, located in the Northern Zone, is considered by the assessment team to be meeting MiDA ABC viability objectives to the original FBO members in 2014. FBO members store grain in community storage centers or in their own barns and at least one FBO requires members to contribute a 120 kg bag of maize to a common fund to generate cash to purchase inputs for the following season. Annual FBO

member contribution of grain to a community grain reserve absolves the need for individual farmers to secure outside credit facilities. Based on positive 2014 trial program results when tractor services were provided on credit during the planting season with in-kind payment after the grain harvest, the company plans to incorporate this new practice into its operation beginning with the 2015 production season. The Faranaya ABC is considered sustainable in the long run.

The PI is Presbyterian Agricultural Investors (PAS), an experienced Ghanaian NGO providing agricultural services to smallholder farmers in each production Zone. Throughput in 2013 and 2014 was quite small at 289 mt and 323 mt respectively. The 2014 BEP was only 129 mt as staff salaries are low and a high percentage of revenue is derived from grain trading with low handling costs. A slightly negative cash flow was realized in 2012, but positive cash flows were attained in 2013 and 2014. The ABC operates primarily as a grain trader, buying maize and rice on its own account from FBO members using FBO leaders as buying agents. Grain is also purchased from non-FBO members. Neither inputs nor credits were provided to farmers due to an ABC shortage of working capital. Some tractor services are provided, with farmers paying cash at the time the service is completed. Processing and handling services were severely curtailed in 2012 and 2013 as the electric transformer provided by MiDA at project startup was faulty and the responsible state power company did not replace it until early 2014. Consequently, the ABC could not offer expected shelling and processing services. FBO members store grain in community storage centers or in their own barns and at least one FBO requires members to contribute a 120 kg bag of maize to a common fund to generate cash to purchase inputs for the following season. This program absolves the need for ABC credit and eliminates the need for individual farmers to secure their own credit facilities.

Karaga ABC, located in the Northern Zone, is considered by the assessment team as meeting the MiDA ABC viability objectives to the original FBO members in 2014. The ABC provides neither inputs nor credits, but provides production and postharvest training to FBO members and some tractor services. About 15% of members received ploughing services in 2014. It buys FBO member grain on its own account and covers transportation cost to the ABC facility and subsequent processing and storage costs.

FBO leaders and members indicated that farmers are mostly interested in production services, and are not interested in using ABC post-harvest services such as drying, cleaning, and milling. Their strategy is to store grain at home, as a form of savings, and wait for post-harvest price increases to sell small quantities to meet recurring cash requirements. The company is a successful business operation providing benefits and training to farmers in the local communities. It has shown strong profits during the past two years, and its equity position is sound. It has a successful business model.

The PI, Agricultural Support and More Ltd (AGSL), is an experienced grain trading company that had earlier MiDA experience as a Technical Training Service Provider (TTSP) to smallholder farmers. With the highest BEP of all ABCs, it also had by far, the highest throughput at 7,000 mt for 2013 and 19,200 for 2014. Owner equity increased by a factor of six from ABC startup to the end of the 2014 season. Approximately 75% of the grain handled by the ABC is from the associated members, with FBO leaders serving as purchasing agents. The remainder is from non-FBO clients. Cash flow and profits were positive for both years. Most FBO members are subsistence farmers that sell only their surplus production to generate income. They have limited landholdings and are unable to produce a large marketable surplus beyond household requirements. Consequently, their strategy is to store grain at home, as a form of savings, and wait for post-harvest price increases to sell small quantities to meet recurring cash requirements. FBO Union leadership is considered by the PI to be very effective in resolving issues arising between ABC and FBO membership. FBO member FGDs indicated strong member support for FBO Union membership. The ABC does not provide either inputs or credits, but provides production and postharvest training to FBO members and some tractor services. About 15% of members received ploughing services in 2014. It buys FBO member grain on its own account and covers transportation cost to the ABC facility and subsequent processing and storage costs. Processed grain is sold to large buyers, including the World Food Program, and the Ghana Buffer Stock Company, a government company that buys grain for school feeding programs and for food security stocks. Both buyers required high quality and pay premium over local prices. The ABC is considered sustainable as it is currently being managed.

Savban ABC, located in the Northern Zone, is considered by the assessment team as not meeting MiDA viability ABC objectives to the original FBO members in 2014. It buys only a limited amount of member grain and does not provide input supplies or provide farmer training but provides significant land preparation services. Few FBO members bring their grain to the ABC for processing as farmers prefer to store their grain at their homes or in their villages, using it as a savings account, and selling in small lots throughout the year to local buyers for cash. In addition, the ABC prefers to trade soybean rather than maize, but few FBO farmers grow soybean. The PI has shown willingness to provide additional funds to offset the financial losses incurred by the ABC over the past two years and Savban can attain long-run sustainability by expanding its non-FBO clientele base especially concentrating on nearby commercial farmers.

The PI Savannah Farmers Marketing Company (SFMC), is an agricultural marketing company created by The Association of Church-based Development NGOs (AGDEP) of Ghana, along with the Dutch-funded international NGO, ICCO. The ABC recorded losses for both 2013 and 2014 on quite large revenues.

Throughput for 2013 was 1,547 mt but declined to 590 mt in 2014. BEP for 2014 was 1,056 mt. High overhead cost is the major factor contributing to the high BEP. Input supplies were provided on credit in 2012 with 70% loan recovery. Credit-supported input provision was provided in 2012 but due to the poor loan recovery experience, it was limited in 2013 to farmers with positive payback experience. This caused friction with a large segment of the membership who defaulted on loan repayment. Few FBO members bring their grain to the ABC for processing in contrast to what was expected under the MiDA program, as smallholders prefer to store their grain at their homes or in their villages, using it as a savings account, and selling in small lots throughout the year to local buyers for cash. In 2014, the ABC purchased only 364 mt of maize of which only 19 mt were from the original FBO members. Non-members tend to operate larger land holdings than original FBO members and have a stronger commercial orientation. ABC management considers that soybean provides greater trading returns than either maize or rice and most trading revenues were from this crop. Because soybean is not grown in quantity by FBO members this trading preference caused further friction with FBO members. The ABC obtained, on lease, two SADA tractors that enabled the ABC to plough 476 acres in 2014, which is the major service provided to members

Shekina FBO, located in the Northern Zone, as described above, is considered by the assessment team to be fully meeting MiDA ABC viability objectives to the original FBO members in 2014. It operates most closely of all ABCs to original MiDA viable ABC objectives. Grain is purchased from farmers on the PI account and transported to storage at PI cost and FBO farmers do not carry the risk associated with transportation and storage costs of using the ABC warehousing facilities and are assured of receiving an honest weight and fair price from the buyer. Credit is managed through the PI account and the ABC facilitates linkages with other donors and NGOs to provide production and related training to associated FBOs. The ABC is considered sustainable as it is currently being managed.

Amsig Resources was organized as a partnership in 2005, and in 2012, it became a limited liability company and began farming maize. Under the first MiDA Ghana Compact, it provided FBO smallholder training to more than 5,000 smallholders in the Afram Basin Zone and the Northern Intervention Zone. As the PI, Amsig Resources holds 70% of ABC equity and three BoD members, with the Atiri Yi Nya Farmers' Cooperative Union the minority member holding 30% equity and has two BoD members. It represents 20 FBOs having about 1,000 members. AMSIG Resources does not maintain a separate set of accounts for Shekina ABC. Instead, ABC financial results are consolidated within the general account of the parent company. In this manner, the parent company protects the ABC from the risks involved in extending credit for agricultural inputs to the associated FBO members, but also eliminates the possibility

of trading profits being accumulated by the ABC. Consequently, financial analyses and breakeven calculation was not possible for Shekina ABC.

Working with the original 20 FBO Unions with about 1,000 members, it concentrates on providing training to FBO members and land preparation tractor services. The FBOs do not use ABC storage facilities as they have sufficient community storage capacity and are primarily interested in obtaining land preparation services and inputs. Credit-supported input provision is managed by the PI, Amsig Resources, not the ABC, as the company has its own established grain trading business and can easily incorporate the additional risk associated with the new ABC associated FBOs. The PI buys grain directly from farmer or community storages at competitive prices and covers the transportation, processing, and storage at the ABC facility on its own account. This reduces the risk profile of both the ABC and the FBO members. The strategy also facilitates collection of grain needed to repay credit advances. The ABC does not have a trading account and therefore earns income only from services provided. Amsig Resources sells to buyers such as the National Buffer Stock, the World Food Program, and the national school feeding program. Maize is supplied to poultry farmers, and ground nuts are sold to buyers for processing into health supplements by them.

Afram Basin Region ABCs

Aframco ABC, located in the Afram Basin, is considered by the assessment team as not meeting the MiDA ABC viability objectives in 2014. Inputs were provided on credit in 2013 with a high default rate, as FBO members did not deliver products to the ABC. The ABC suffered considerable losses, the manager resigned at the end of the 2013 season for health reasons, and the ABC did not operate in 2014. Consequently, income and profit and loss statements were not available for review. The ABC is not sustainable under current conditions, but could become sustainable with additional capital investment and expansion of commercial farmers.

The PI, Community Planning Development Foundation (CPDF) is owned by two Accra businessmen that engage in community mobilization, construction of social infrastructure, and worked under contract with MiDA as a MiDA Technical Training Service Provider (TTSP) in the Afram Plains under the first Ghana Compact. ABC construction was completed in 2012 but the facility did not begin operating until 2013 due to a considerable number of corrections required to the initial facilities and equipment. The ABC provided some tractor services and FBO members received credit advances for the 2013 season that were to be repaid from maize sales. However, they did not deliver their products to the ABC for processing and storage, the credits were not repaid, and the ABC suffered substantial losses. The manager resigned at the end of the 2013 season for health reasons, and the ABC did not operate in 2014. Financial records

were not available for review. The ABC is not sustainable under current conditions. However, the caretaker manager and the Board of Directors are in the process of reorganizing the operating company by bringing in a viable partner to assume financial and operating responsibility. With a new infusion of capital and the availability of effective management, the ABC could recover, by working with a new clientele base.

Dome-Aframso ABC, Dome-Aframso, is considered by the assessment team as not meeting the MiDA ABC viability objectives in 2014 as the limited services were provided primarily to non-FBO members. Credit was provided to original members by MOFA in 2012 and 2013 at subsidized input prices. FBO members were provided credit through MOFA in 2013 that was guaranteed by the ABC. Only four members provided repayment. The ABC then shifted its focus by working almost exclusively with non-FBO members. Maize is purchased at prevailing market prices on own account after harvest and marketed to large buyers including the government marketing company Ghana Food Distribution Corporation. The assessment team is of the opinion that Dome-Aframso ABC can sustainably operate over the long-term by increasing throughput from post-harvest maize processing and storage services to larger-scale commercial grain traders.

The PI, Yahweh Salom Farms, is a sole proprietorship engaged in maize production and trading and provides agricultural services to selected contract farmers including land preparation, improved seed, and agricultural inputs. Net revenue from maize sales of GHC 7,320 was recorded for 2013 and increased to GHC 21,141 in 2014. Revenue from services excluding land preparation was GHC 46,654 in 2013 and GHC 20,346 in 2014. Throughput in 2013 was 1,437.5 mt compared with 312.65 in 2014. Based on a 2013 throughput of 1,437.5 MT the cash flow breakeven point was 859 MT. All 2014 sales originated from non-FBO farmers.

District FBOs were, in the past, supported by the MOFA Block Farming Program that provided agricultural inputs to smallholders at subsidized prices. Forty-five associated FBO members received inputs from MOFA on credit during 2012, with an 89% credit recovery rate. During 2013, about 60% of the FBO members received inputs from MOFA with repayment guaranteed by the ABC, but only four repaid the amount owed. This left the ABC with a large debt to MOFA for the unpaid amounts that it had guaranteed. During 2013, the government's Block Farming Program and its fertilizer subsidy program ended, but the ABC offered to provide fertilizer to FBO members from MOFA's carryover stock of fertilizer at full price under the condition that they had to repay their old loans from 2013, as well as providing an up-front "commitment fee" payment to obtain fertilizer for the 2014 season. Only two of the FBO members accepted fertilizer under these conditions. The new ABC policy created tensions with

FBO members and subsequently the originally associated FBO members no longer work with the ABC. In response, the ABC initiated a program to enlist a smaller number of FBO associates who better understand the ABC business relationship role. Limited tractor services were provided in 2013 but not in 2014 as the tractor required repairs and the ABC management indicated it was unable to cover the associated costs.

Victory Feed ABC, located in the Afram Basin, is considered by the assessment team as not meeting the MiDA ABC viability objectives toward original FBO members in 2014. FBO farmer credit default in 2012 caused the ABC management to cancel the input credit program and the ABC has not yet recovered the volumes lost from the original FBO farmers. High 2014 maize prices encouraged farmers to sell to local traders instead of the ABC. The ABC does not provide marketing services for its FBO members; it only provides informal referrals to those customers who store their products at the warehouse when it obtains sales leads. Consequently, FBO members prefer to store grain at home and sell to traditional traders to meet household cash needs. Linking the ABC with larger growers and maize buyers, such as poultry farmers, WFP, and other grain aggregators could stabilize ABC sales and provide a consistent market for FBO member's products.

The PI, Victory Feed Enterprises, is a manufacturer of poultry feeds. In 2012, after being awarded a contract to organize the ABC, it recruited 20 FBOs in the area with 1,035 members that were previously trained by MiDA. Throughput for 2012 and 2013 was respectively, 384 mt and 372 mt, but dropped to 38 mt in 2014. BEP calculated for 2013 was 383 mt. The ABC recorded a slight operating loss in 2012, a slight profit in 2013 and a loss in 2014 from a considerably reduced throughput. The ABC had a successful beginning in 2012 when FBO members and third parties brought a considerable amount of maize to the facility for processing, almost filling the ABC storage capacity. However, post-harvest prices did not increase as expected and the ABC was unable to market much grain during the 2012-2013 marketing season. This dampened farmer willingness to store grain at the ABC in future years. FBO leaders indicated that the ABC did not effectively link farmers to external buyers so they still prefer to store grain at home and sell to market women or other local traders to meet current household cash requirements.

The ABC was linked to the MOFA supply of subsidized inputs during 2012 and 2013. For the 2013 season, FBO members were required to pay a 50% "commitment fee" to obtain subsidized fertilizer. Since most smallholders pay only for fertilizer obtained for the previous season in order to qualify for fertilizer on credit for the current season, the farmers did not pay money owed to MOFA for the 2013 season, as this was the last year of the MOFA subsidized fertilizer program. Although the ABC was

eventually able to collect 100% of the outstanding balances, the collection process was difficult and the input credit program was suspended. It appears that if government subsidized fertilizer is not available few farmers will purchase it from commercial dealers.

The interviewed FBO leaders indicated that initial working relationships between the FBOs and the ABC were good but have since deteriorated. The main problem is lack of communication between the two parties caused primarily by an inactive BoD. The farmers never see the investor, because he works at the Ministry of Food and Agriculture in Accra, and seldom comes to Ejura. When he does come, no one sees him and he is consequently viewed as being inaccessible. Interviewed FBO members and leader concluded that provision of tractor services is the major ABC benefit.

Southwestern Horticultural Zone ABCs

Seed Shop ABC, located in the Southwestern Horticultural Zone, is considered by the assessment team as not meeting the MiDA ABC viability objectives toward original FBO members in 2014. Current ABC activities include only a limited amount of land preparation and post-harvest maize processing services. Non-payment of input supply credit provided to FBO members in 2013 created severe cash flow problems for the company, from which it has not recovered, and resulted in a large decline in FBO member patronage. A further contributing factor affecting ABC status is deficiency of MiDA provided equipment that required additional ABC investment to overcome the associated problems and could not handle the MiDA targeted shelling and drying volumes. A poultry company maize production and processing agreement now being developed by the ABC has the potential to substantially increase ABC throughput and there is, in addition, a substantial maize demand from several large poultry and egg producers in the area that could be met by the ABC. This could provide long-term sustainability but it is doubtful if original FBO members will participate.

The PI, The Seedshop Company of Accra, is an agro-input supplier of seed, pesticide, fertilizer, and agricultural fumigation equipment. Annual financial and operating statements were not available as no statements had been prepared since the ABC began operating. BEP could not be calculated. FBO members make little use of FBO post-harvest services. In 2012, 110 mt of FBO member and 20 mt of non-member maize was processed. In 2013, 58 members brought 51 mt for processing supplemented by 100 mt from non-members. During the 2014 major season, 65 FBO members brought 35 MT for processing while non-members brought 50 mt. There was no demand for maize processing during either the 2013 minor season or the 2014 minor season, since the farmers planted only limited quantities of maize due to their concerns that rainfall would be insufficient or unreliable for maize production.

During the initial 2013 production season, the ABC provided agricultural inputs including hybrid maize seed and fertilizer to its associated FBO members under seasonal credit terms. With a default rate of 40%, the program was suspended the following season. With the high yield and low prices, a number of farmers stored maize in the ABC warehouse for a long period and the price charged by the warehouse was too low to be profitable (GHC .30 as recommended by MiDA). It has subsequently been increased to GHC 2.00. In 2013 the ABC provided postharvest services to commercial maize seed producers including maize shelling, cleaning, drying, and maize seed treatment. However, it was unable to compete with a nearby large government-owned seed processing plant with lower operating costs. Operating without a required cold room for seed storage the ABC was unable to keep the seed producers as customers and has since withdrawn from the seed processing business.

The ABC has not yet achieved a profitable operational level. A trial input supply program was initiated in 2014 with a nearby poultry company that buys maize for transforming into poultry feed. The ABC processes maize and the poultry company takes delivery of the conditioned maize and pays the smallholders for the amount purchased, after deducting the cost of the agricultural inputs. The ABC coordinates the entire process. ABC leadership considers the loan recovery rate as acceptable and the activity is highly promising; it will be expanded during the 2015 production season.

Quality Agricultural Services, located in the Southwestern Horticultural Zone, is considered by the assessment team as not meeting the MiDA ABC viability objectives toward original FBO members in 2014. Due, in large part, to an unresolved dispute between the ABC PI and the FBO Union, members do not make use of ABC services and it now operates as an independent private company with its strategy to a) encourage nearby non-FBO farmers to bring their maize to the ABC to be processed; b) encourage local market women to store their maize at the ABC, instead of holding it at their respective villages; c) increase the amount of maize being processed at the ABC for use by the three investment partners, and d) to obtain a bank loan to buy additional tractors in order to operate the PI owned 300 hectare farm and process and store the product at the ABC.

The PI, Quality Agricultural Services Ltd trades in grain, engages in tree crop production, processes maize, fruit and legume crops, sells input supplies, and provides agricultural consulting services. It was registered in 2009 with three investors, one of which is an agricultural consultant and owns a poultry company. MiDA awarded the contract in early 2012 and the ABC was associated with 20 FBOs with 984 associated members. It began limited operations in September of that year, at the outset of the minor harvest season. The ABC became fully operational at the onset of the following major harvest season in July and August of 2013. The FBO FGD indicated that only 45 of the original FBO members sent their

grain to the ABC in 2013. They indicated that it was not shelled on time; it started to get moldy and they subsequently picked it up and brought it back to their farms. (The assessment team concluded that the delay was most likely caused by the low capacity sheller provided by MiDA (it could shell only one farmer's maize per day) and the poor efficiency of the diesel powered drier.

The ABC reported a small 2014 profit despite the very low throughput from original FBOs. Shortly after ABC organization, ABC and FBO leaders could not agree on the ABC service role with farmers expecting to receive low cost inputs and credit. Since the MCC Compact had already ended, MiDA staff was not available to assist in resolving the impasse. Communications between the ABC and the FBOs never recovered, and the FBO now works primarily with non-FBO farmers. QAS provides limited tractor services but does not buy FBO member grain as they can buy it at lower cost from nearby farmers. All grain purchased is used by PIs as feed input for their poultry operations.

IV.B. Benefits Derived by FBO Members and Factors Limiting the Use of ABCs by Target Clientele

Governments view FBOs as effective mechanisms for increasing agricultural productivity in many African countries since providing access to extension information and new agricultural technologies for large numbers of farmers plays an important role in increasing productivity and enhancing food security of smallholder families. In Ghana, both public and private organizations have established a large number of FBOs. They are organized as cooperative business entities able to undertake financial and economic transactions as legal representatives of their members. In addition, they undertake community social activities to improve member satisfaction and well-being. A database created by the Ministry of Food and Agriculture (MoFA) through voluntary registration estimates the 2014 total number at 3,328, of which over 60 percent are involved in crop production.

The MCC Ghana Compact through the Millennium Development Authority (MiDA) worked with selected FBOs to provide comprehensive training to enhance the profitability of commercial agriculture among smallholders, simultaneously using the FBOs as platforms to supply farm inputs and facilitate access to credit. With a few exceptions, ABC and FBO respondents indicated that they were not aware of FBO member ownership share in the ABC or if they were aware, FBO and ABC respondents indicated that Board of Director (BoD) meetings were either not held or that FBO concerns were not taken into account by management. Based on FBO interviews Shekina ABC was an exception to this conclusion. Moreover, review of the FBO and ABC respondent comments indicated that, again with the exception of Shekina ABC, most ABC management took operating decisions based on their BOD majority position without taking FBO views into account. The discussions further indicated that none of the ABCs had set

up the required FBO member escrow account. The non-voting MOFA BOD member had the responsibility to flag these deviations from the expected legal procedures, but review of the ABC and FBO comments indicated that generally, this did not happen.

All FBO respondent members and leaders indicated that maize and rice yields had at least doubled as a result of MiDA training in good agricultural practices and the use of one-acre starter packs that provided improved seed and fertilizer and were very pleased with this outcome. Several FBO member groups indicated that the extra production provided sufficient grain to last the whole year thereby eliminating the “hunger season” that formerly occurred for several months prior to the next harvest. The Postharvest Handling Activity was designed to build on these positive outcomes by providing markets for the surplus production.

Farmers benefited from work sharing on member farms but a consistent theme in the discussions with ABC leaders was that relationships with the FBO did not go well because farmers had unrealistic expectations regarding ABCs provision of input supplies and credit provision. In the years prior to ABC startup, farmers were able to buy fertilizer from MOFA at subsidized prices, and received input credits. Procedures were in place requiring farmers to provide partial payment prior to making the next year’s purchases, and individuals not repaying the previous loan were ineligible to buy fertilizer on credit the following year. MOFA discontinued subsidized pricing in 2013 just as many ABCs were in startup mode, so farmers were required to pay full market price for purchased fertilizers. Some farmers blamed the ABCs for the price increase and none of the ABCs had prepayment requirements or enforceable purchase contracts in place. Consequently, farmers had strong incentives to sell grain to local buyers and forgo repayment of ABC provided loans¹⁵. By 2014 only one out of the 10 ABCs consistently provided input supplies to their original FBO members (Shekina ABC). In this case, inputs on credit were provided on the account of the PI, not the ABC, as it had considerable experience with smallholder credit provision and sufficient capital to cover the risk exposure. They required farmers to a) provide an up-front 50 GHC deposit, b) bought grain directly from farmers in their community working through the FBO leadership, and c) developed the reputation of paying a premium over traditional buyers. When buying grain, the outstanding loan balance, and the deposit for next year’s fertilizer was deducted from the total purchase.

In a related situation, FBO members associated with Faranaya ABC indicated that after receiving the MiDA starter pack (containing seeds and fertilizer to plant one acre) each member began contributing a

¹⁵ Credit repayment problems experienced by the Ghanaian ABCs buying from subsistence smallholders are common across all countries and commodities. They are typically resolved by implementing group based policies that reinforce required behavior by making all members responsible for the non-compliant behavior of the few.

120 kg bag of maize to a common fund to generate income to buy fertilizer for the next season. This fund ensures that farmers have cash available to purchase fertilizer for the next season thereby eliminating the need for ABC provided credit. This ABC does not supply inputs but purchases grain on its own account from farmers using FBO leaders as purchasing agents. The common element in both cases is the presence of a well-functioning FBO and an ABC able to guarantee a market at a fair price.

Consistently, FBO members and leaders said they were not interested in delivering grain at their own cost to ABC storage facilities. Annual grain yields vary significantly under rain-fed growing conditions and they did not have sufficient land to produce a significant annual surplus above household food needs. Most FBO members are subsistence farmers and locally stored grain serves as a savings fund from which grain can be sold after the harvest season when prices are expected to rise. Most farmers either had sufficient storage space in their own barns or had community storage (often built with donor funds) so the concept of paying a transportation charge for bringing grain to the ABC and then additional charges for processing and storage before the grain could be sold, was not an attractive option unless a sufficient price premium to cover these costs was attainable.

FBO members and leaders discussed credit default issues openly, with most indicating that the cause was related to poor yields and lack of sufficient grain to repay the loan and have sufficient cash remaining to meet household expenses. A contributing factor was that farmers didn't have sufficient transport to deliver the grain to the ABC or to meet the cost of hiring transport. ABCs did not provide free transportation for this purpose unless purchases were made on their own account. Moreover, both ABC and FBO respondents confirmed that prices paid by the ABC or by buyers referred to farmers by the ABC after deducting transportation, processing and storage costs was usually no higher than the price received from local traders. The assumption underlying the MiDA model was that ABCs would either buy grain on their own account or be able find sufficient buyers of high quality grain willing to pay prices that exceeded postharvest costs of handling, processing and storage. Most ABCs could not meet this requirement and as a result, farmers preferred to sell to local traders.

FBO member interviews and ABC management actions indicated that ABC customers are coming largely from within 20 km ABC catchment area, but farmer interviews indicated that often farmers located 10 km from the ABC felt that it was too far from the ABC base to receive adequate services. ABCs generally preferred to work with farmers as close as possible to the ABC location in order to reduce transportation costs.

IV.C. MiDA Project Design and Implementation Issues

The MiDA Agriculture Activity Guidelines (Annex 6) indicated that:

“By establishing ABCs as joint ventures between private investors and FBOs with the support public funds, MIDA intends to move away from a traditional approach of establishing such centres where the interests and needs of small holder farmers are not fully taken into account. Traditional approaches focus on having the infrastructure, equipment, and working capital to maximize the purchase and trade aspect of the business. Few centres work with farmers to maximize production in the field or to provide farmers access to the inputs and storage.

By moving away from that model, MIDA expects that ABCs will reduce market imperfections and enhance benefits for all actors of the value chain and in particular farmers and their organizations.”

This organizational structure, linking a private sector investor with a farmer cooperative into a Ltd organization structure is an innovative approach to addressing problems associated with promoting smallholder commercial development. Formation of farmer business cooperatives in developing economies has been fraught with implementation problems associated with lack of government oversight and financial support with few examples of long term success.¹⁶ Discussions with ABC and farmer representatives indicated that the ABC/FBO model can be viable when the private sector partner is able to a) develop and maintain access to high quality markets, b) buy product and provide credit on its own account, and c) can work with farmer cooperative organizations that can coordinate smallholder production into sufficient quantity and quality to facilitate a long-term business relationship with each other. These relationships were effectively implemented by Shekina ABC. Shekina and other ABCs – Faranaya, Karaga, Savban, Dome-Aframso – that successfully bought grain from farmers (FBO and non-FBO) did so by buying grain directly from farmers, paying cash and covering postharvest transportation, processing and storage costs on their own account.

As noted in Section 1, facility infrastructure and equipment transfer from MiDA to the new ABCs was scheduled originally for completion in 2010 subject to enactment of amendments to the Plant and Pest Disease (Act 307) of 1965 to be consistent with IPPC Standards, a condition precedent to disbursement of

¹⁶ By comparison, formation and development of US farmer cooperatives in the early 20th century was supported by government financed extension services to provide technical training to farmers and farm leaders in organizational management and technical farming practices, and government financed long and short term credit programs.

funds for this activity¹⁷. Passage of the required legislation was delayed by two years and Presidential assent provided on September 8, 2010. As a result, ABC startup was delayed by two years and MiDA facility and equipment transfer to the ABCs took place in May to September 2012, well after the closure of the Compact activities on 12 February 2012. This delay meant that MiDA staff were no longer available to address and mediate initial ABC/FBO problems. It is quite possible that such MiDA support could have resulted in improved ABC performance against activity objectives.

An additional militating factor is that MoFA had a fertilizer subsidy program in place in 2010. This ended in 2013 just at the time that many ABCs were coming online. Under the program, farmers would receive credit for current season inputs if they had paid the outstanding loans from the previous year. With program termination, ABCs charged farmers the unsubsidized price, and many farmers used the ending of the subsidy program as an opportunity not to repay credit provided in the previous year. It is possible that had ABCs started operation in 2010 as planned, the experienced fertilizer credit repayment issues might not have occurred or if they had occurred, they could have been mediated and resolved by MiDA staff.

All ABCs indicated moderate to severe problems associated with original MiDA-provided facilities and equipment. Poorly designed grain processing space and grain receiving areas with unfinished dirt surfaces led some ABCs to rearrange processing equipment and install concrete floors. The diesel powered dryers required conversion to either propane or electric power. Maize shellers did not have de-husking capability and most were stationary electric powered units while portable units powered by tractor power-take-off (PTO) drives could operate in local areas. Maize sheller capacity was limited 10 mt per day, which is not sufficient to handle the anticipated grain volume under the Activity assumptions that some 1,000 farmers would be supported by each ABC. MiDA provided one 70 hp tractor to each ABC for use in providing tractor land preparation services. Similarly, one tractor was insufficient to provide land preparation services to all FBO members. Some ABCs purchased or leased extra tractors but most did not have sufficient capital to make purchases. In this case, land preparation services were not included as an original Activity viability objective, so it is not considered as a formal criticism.

MOFA BoD board members were to provide regular monthly reports to Regional Directors which could be used as the basis for addressing FBO/ABC problems or difficulties. Discussions with MOFA BoD members did not indicate that these reports were provided.

¹⁷ MCC Compact Completion Report p 67; MCC Compact Completion Report p 24 identifies the new legislation as the Plant and Fertilizer Act, 2010 (Act 830) with the same enactment date.

The consistent pattern of successful ABC/FBO and other farmer trading relationships practiced by five ABCs who pay cash directly to farmers and cover subsequent postharvest handling costs leads the assessment team to conclude that the MCC/MiDA assumption that farmers would deliver grain to ABCs for postharvest handling was seriously flawed. Smallholder farmers do not have the cash flow to finance postharvest handling costs associated with delivering grain for subsequent sale as a high quality product. In addition, the analysis indicates that FBOs must also be able to effectively manage their own-farm or community grain storage in in order to develop successful long-term trading relationships with commercial traders that are able to tap into high quality wholesale markets. However, these observations do not distract from the positive conclusion that the innovative ABC/FBO joint venture framework can indeed form the basis for viable long term business relationships between traders and smallholder farmers effectively organized into business cooperatives. It is a model that, with the above modifications, can successfully provide viable and sustainable business partnerships between commercial traders and smallholder farmers.

V. Findings and Conclusions

Findings

1. Income statements and throughput data were available to conduct ABC breakeven analyses for six ABCs. BEPs ranged from 2,317 mt to 129 mt providing an indication of the wide range of throughput experienced by the ABCs. Five of the six exceeded their breakeven point for at least one year while two exceeded their breakeven point for both 2013 and 2014. Discussion with ABC management and available cash flow and throughput data indicated that one of the remaining enterprises (records were kept under the PI account) was profitable in 2013 and 2014; one had a positive cash flow for 2013 but not 2014. The remaining two did not attain positive cash flows since startup. One of the two did not open for business in 2014.
2. Three ABCs (Shekina, Faranaya and Karaga met the MiDA activity objectives in 2014. Six of the remaining ABCs provided few services to the original FBOs, and the seventh did not open for business in 2014. The effective ABCs predominately purchased grain on their own account using the ABC facilities to process and store grain prior to sale, but only one, Shekina, maintained a large proportion of the original FBOs. It provided inputs on credit based on long standing experience working with subsistence level smallholders.
3. New non-FBO ABC clientele tended to be closer to the ABC site than many of the original FBO members of the defined 20 km catchment area and at least one ABC (Busaka) worked primarily with women farmers as they demonstrated lower credit default rates than men.
4. Nine of the ABCs developed sustainable business models, in the opinion of the assessment team, but with exception of the ABC meeting the MiDA activity objectives, this was accomplished with a clientele base including mostly larger, non-FBO farmers. The remaining ABC did not open for business in 2014.
5. Only one ABC systematically provided input supplies on credit after the fallout with FBO members over high credit default rates in the 2012 and/or 2013 cropping seasons. However, FBO member and leader discussions indicated that FBOs would like ABCs to provide input supplies.
6. The ABC meeting MiDA activity objectives provides credit on its own account and requires farmers to provide a deposit for fertilizer ordered for the following year.
7. One FBO group requires all members to contribute a 120 kg bag of maize into an FBO managed fund to provide cash for next year's inputs. This absolves the ABC from the need to provide credit advances.

8. Most ABCs continued to provide tractor services for some original FBO members. FBO member and leader discussions indicated that farmers would like to see these services expanded. In several cases ABCs had leased tractors from SADA.
9. Most FBO members are subsistence farmers who store maize or rice at own or community storage sites. The grain serves a form of savings that can be sold to local traders after initial postharvest price increases to meet household needs. Most farmers do not have their own transport. They find it uneconomical to pay the ABC for transportation to the center and associated processing and storage costs that, from experience to date, they know cannot be recovered from the price of grain sold from the ABC center. This is because most ABCs were not able to pay above local price levels or provide farmers with linkages to buyers paying higher prices.
10. ABC startup was delayed by two years caused by the inability of GOG to meet a required Condition Precedent. With startup delayed until mid-2012, well beyond the MCC Compact termination date of 12 February 2012, MiDA could no longer provide implementation oversight and mediation support that could have anticipated or resolved the experienced problems.
11. FBO members were to have contributed 50 kg bags of grain each to form an equity fund to be kept in an ABC escrow account serving as security for bank credit provided to smallholder members. ABC staff and FBO farmer interviews indicated that farmers did not contribute the required grain nor did any ABC set up an escrow account.

Conclusions

1. It is not possible to determine a common BEP that defines financial success as the BEP is a function of throughput, costs and returns. ABCs with low throughput and low costs registered high BEPs as did ABCs with high throughput and high, but reasonable, cost structures. ABCs with high cost structures relative to throughput registered negative BEPs and poor performance was highly correlated with losses associated with high farmer input credit default rates.
2. ABCs could only cover transportation, processing and storage costs and pay prices competitive with traditional local buyers by selling to buyers requiring higher quality grain, such as the WFP, the Ghana Buffer Stock Company, or commercial poultry operators.
3. Most ABCs minimally effective in 2014 with their original associated FBO members have developed potentially sustainable operations by providing services to non-FBO smallholders and/or commercial farmers that generally are closer to the ABC facility than are many original -FBO farmers. Buying farmer product from local areas and processing and storing it on own account with sales to buyers requiring processed high quality grain can further increase throughput and profits. ABCs prefer working with farmers closest to their facility location in order to reduce transportation costs

4. Fallout from high credit default rates on input supplies is a major reason for the high FBO non-participation with associated ABCs. Had ABCs come on line in 2010, when fertilizer subsidies were in place and MiDA staff were available to mediate between ABC management and FBO leaders and members, it is quite possible that the initial serious credit induced problems could have been anticipated or resolved.
5. By creating an FBO managed escrow type fund with funds obtained from the sale of grain provided by each FBO member a cash reserve is available for purchasing inputs at the start of the next season. This can eliminate the need for ABC provided credit. However, to be successful, a structured and trustful business relationship needs to be developed between the ABC and its FBO partner.
6. The single tractor provided by MiDA to the ABCs is insufficient to meet important land preparation need of the original FBO members, and ABCs should either purchase or lease additional tractors to meet farmers' needs.
7. ABC experience to date indicates that it is not cost effective for smallholder subsistence farmers, with no ability to expand land holding area, to implement the MiDA anticipated ABC strategy of taking delivery of FBO member grain, and processing and storing it on site for future sale as the added cost of services provided has been shown to exceed the additional price, if any, received from the sale of this grain.
8. Had MiDA been able to follow the planned ABC construction and transfer schedule, it is possible that they could have resolved many of the startup problems that led to communication and implementation breakdown between most of the ABC PIs and the FBO membership.
9. The non-payment of initial FBO member provided equity funds into an ABC escrow account casts doubt on the legal ABC ownership rights that were to be held by the original FBO members.
10. The innovative ABC/FBO joint venture framework developed for the Postharvest Handling Activity can indeed, form the basis for viable long term business relationships between traders and farmers effectively organized into business cooperatives. It is model that, with some technical modification, can successfully provide viable and sustainable business partnerships between commercial traders and smallholder farmers.

VI. Recommendations and Lessons Learned

Recommendations

1. FBO member participation can be increased if ABCs buy grain on their own account from FBO members and cover the associated transportation, processing and storage costs by selling to buyers of high quality such as the WFP, Ghana Buffer Stock Company and poultry operators. ABCs should also lease or purchase additional tractors and grain planting equipment to expand land preparation and grain planting as the vast majority of smallholders do not have the land area capacity to purchase this equipment on their own.
2. MiDA smallholder training indicated that improved seeds and fertilizers are the major basis for improving grain yields and profits but most farmers do not have available cash to purchase these inputs and insufficient equity to provide security for bank loans, which in any event is expensive. Consideration should be given to encouraging FBO leaders to coordinate local grain buying activities and for FBOs to maintain their own input purchase fund to reduce or eliminate dependence on outside credit to purchase inputs. The MOFA donors, or NGOs should develop dedicated smallholder business and postharvest training to incorporate this model within the overall FBO implementation program. They should consider providing this training in conjunction with funding construction of community storage centers where this is needed. This type of activity is at the heart of the farmer cooperative movement and effective implementation will eliminate farmer interest costs and increase yields, thereby creating additional incentives for ABCs to expand their work with FBO smallholder members.
3. ABC supported production demonstration plots managed by lead FBO community farmers, including FBO leaders, can provide a visible training resource to incentivize smallholders to adopt improved production technology practices. ABC staff can use demonstration field days to talk with farmers and to observe crop status in order to provide estimates of potential grain sales from the community.

Lessons Learned

1. The MiDA design included the objectives required to achieve a viable and sustainable ABC/FBO partnership arrangement. The postharvest capacity building component was designed to provide postharvest grain processing and storage in a partially farmer owned Agribusiness Center. It was expected that the ABC PI would be able to gain a sufficient price premium for grain delivered by the farmer to the center for processing and storage prior to sale to cover the added farmer costs. However, only a few ABCs achieved this price objective and on average, fewer than 5% of the smallholder FBO members delivered grain to the ABC. FBO members and leaders overwhelmingly indicated that the original postharvest handling design concept expecting farmers to cover costs of transportation processing and storage at the ABC, was flawed as a) ABCs generally did not offer prices high enough to cover accumulated ABC transportation, processing and storage costs; and b) it did not accurately interpret the smallholder economic paradigm. Most original FBO smallholders are subsistence farmers with a limited land base that cannot be expanded to obtain additional commercial output. Providing sufficient food to meet family needs is always the first priority and only the surplus will be sold. With a fixed land base, production increases are possible only from improved production technology practices and improved on-farm postharvest handling procedures. Smallholders have no formal bank savings accounts, but instead use their grain as a form of savings bank. By delivering all their grain to the ABC, they lose control over their family savings and can no longer meet recurring household cash expenses from sale of locally stored grain. The most successful ABCs understood this reality and purchased grain from the farmer storage thereby shifting the non-farm level postharvest risk from the smallholder to their own account.
2. The idea of setting up an ABC escrow account for use as smallholder security is a useful idea but as designed would most likely raise no more than \$10,000, which is not sufficient to meet expected credit needs for the anticipated ABC associated FBO membership. The escrow account is most useful if implemented at the local FBO level as demonstrated by at least one ABC associated FBO group.
3. A viable ABC/FBO smallholder partnership enterprise is one where a) the PI is able to sell processed grain to buyers able to pay a sufficient price premium to cover postharvest handling and processing costs, b) smallholders follow approved farming practices which have been shown to double traditional yields under normal growing conditions, c) FBOs maintain their own community level storage facility and manage an escrow type fund by setting aside a proportion of grain from the current harvest to provide a fund to purchase the following year's inputs, c) the PI has sufficient working capital to pay cash for farmer's grain stored at community storages, and is able to handle the financial risk associated with transporting, processing and storing grain prior to final sale.

ANNEXES

ANNEX 1. Scope of Work

Post-Compact Assessment of Agricultural Investments under MCC Ghana Compact Interim Financial and Social Analysis of Agribusiness Centers

The current phase of the post-Compact assessment of the agricultural investments made under the MCC Ghana Compact includes the facilities and equipment that were provided for post-harvest handling, conditioning, and storage of grain and legume crops at ten agribusiness centers (ABCs) located throughout Ghana.

This phase of the post-compact assessment will provide an interim financial and social analysis of the operations of the ten ABCs, and the services provided to their affiliated small-scale farmers. This work will take place during February – March 2015.

The financial and social analysis of ABC operations will provide responses to the following questions defined by MCC:

- a.) What does a viable business model look like for an ABC? What is the break-even point for revenue and throughput?
- b.) Using that definition of “viable”, how would one or multiple non-viable ABCs affect the power of the survey? How many of the ABCs would need to be viable to detect an effect?
- c.) Are the ABCs working with both the anchor investor and FBO farmers as intended? Are their customers largely coming from within a 20-km radius?
- d.) If fewer than intended FBO farmers are using the ABCs, how does that affect the end-line performance evaluation?
- e.) What factors limit their use, as well as the benefits derived by small-scale farmers from MCC’s investments in the ABCs? What action could be taken to increase their use by smallholders?

To complete this assignment, an international consultant with the support of a local consultant will visit the 10 agribusiness centers that were constructed under the MCC Compact and conduct open-ended interviews with the senior manager and/or the majority owner’s representative at each location. The purpose of these interviews will be to obtain information that will lead to conclusions on the effectiveness and sustainability of the different ABC operations, and the services provided to their affiliated small-scale farmers. The interviews will also provide information that will inform responses to the above questions a, c, and d.

Furthermore, the consultants will organize focus group discussions (FGDs) at the ABCs with the group leaders and small-scale farmers who are members of the respective associations that are minority owners of the ABCs. The purpose of these discussions will be to determine the perceptions of the smallholders on the effectiveness of ABC operations, to learn the extent that smallholders are utilizing ABC services, and to learn how smallholders could achieve greater benefit from ABC services. The FGDs will also seek to obtain answers to question e above.

The analysis of the ABCs will require that the completion of the following tasks:

- A review of available information and comparison of actual and anticipated/planned results for the period of time that each ABC has been operating. This will require that information be obtained for operating parameters such as product throughput at each ABC, the number of clients served, and what land preparation services are being provided by the ABCs to their smallholder members. The consultant will also analyze the financial performance and the cash flow generated by each ABC since it began commercial operations. This will give an indication of the effectiveness and sustainability of the different ABC operations¹⁸.
- With this operating and financial information as input, the consultant will assess the effect of each ABC on its respective smallholder members in terms of the amount of their product handled and the value of the services provided to them by the agribusiness center. This analysis will seek to quantify the benefits obtained by smallholders from the operations of each agribusiness center.

This work will entail site visits to each ABC; interviews with the ABC manager and/or the owners' representative; a review of business plans, financial budgets and financial results for each agribusiness center; interviews with the leaders of the farmer organizations (FOs) served by their respective ABC, as well as focus group discussions conducted with selected smallholder members of the affiliated farmers' organizations.

From these analyses, the consultant will assess the financial performance and calculate the financial breakeven point for the ABCs, and thereby determine the financial viability of each enterprise.

An estimated LOE of three work days will be required by the two consultants to conduct the field work at each ABC (30 work days for each consultant), including information collection, background review, in-

¹⁸ The completion of this task will depend on the availability of financial information that the consultants will need from each of the 10 ABC being evaluated. MCC has asked MiDA for its collaboration in requesting and obtaining from each ABC management entity the information needed for this financial analysis. However, if some of the ABCs are unable or unwilling to provide the required financial and operating information, the results of the cash flow analyses for those ABCs will be limited to the amount of information available.

country travel, and conducting the field interviews. An additional time of ten days will be required by the international consultant for data analysis and drafting the analytical report.

LOE Summary - interim financial and social analysis of the operations of ten ABCs

a.) Preparation and scheduling	1 day
b.) ABC Field Work	30 days
c.) Analysis and report writing	10 days
d.) International travel	3 days
Total	44 days
LOE International Consultant 44 work days	
LOE Local Consultant 30 work days	

Output

The output of the interim analysis will be an assessment report of approximately thirty pages in length including an executive summary, introduction, background, analysis, and a summary of findings, conclusions, recommendations, and lessons learned.

ANNEX 2. Supporting Tables

Table 2.1 Ghana ABC Interviews and Focus Group Discussion Numbers

Organization	ABC Staff	FBO Leaders	FBO Members	Others	Total
Northern Zone					
Busaka ABC	5	3	11		19
Faranaya ABC	1	4	9	3	17
Karaga ABC	2	3	0		5
Savban ABC	2	3	31		36
Shekina ABC	3	1	17		21
Afram Basin					
Aframco ABC	1	7	19	1	28
Dome-Aframso ABC	1	1	0		2
Victory Feed ABC	2	1	16		19
Southwestern Horticultural Zone					
Seed Shop ABC	2	2	11	3	18
Quality Agricultural Services ABC	1	1	5	1	8
MiDA				2	2
Ghana Airports Company				1	1
Total	20	26	119	11	176

* FBO members were not available for FGDs; one FGD was held with all other FBOs

Table 2.2 MiDA-Agribusiness Center Investment and FBO Membership

ABC Investor	ABC Name	District	FBOs	Members	Cost US\$
Northern Zone					
Investment Protocol Services, Ltd.	Busaka ABC	Savelugu Nanton	20	1003	371,801.68
Savannah Farmers Marketing Co.	Savban ABC	Tamale Metro	20	826	371,801.68
AMSIG Resources	Shekina ABC	Tolon	20	998	371,801.68
Agricultural Support and More, Ltd. (AGSL)	Karaga ABC	Karaga	20	754	375,178.85
Presbyterian Agricultural Services	Faranaya ABC	West Mamprusi	72	3508	390,934.97
Afram Basin Region					
Community Planning Development Foundation (CPDF)	Afram Plains Farming & Marketing Co. ABC (Aframco)	Kwahu North	20	978	356,818.82
Yahweh Salom Farms	Dome-Aframso ABC	Ejura-Sekyedumasi	20	975	310,607.76
Victory Feed	Bonyo Victory Feed ABC	Ejura-Sekyedumasi	20	1035	371,007.33
Southwestern Horticultural Zone					
Quality Agricultural Services	Quality Agric. Services ABC	Manya Krobo	20	984	359,214.82
Seedshop Company	Seed Shop ABC	Gomoa	52	2593	359,214.82
Totals			284	13,654	3,638,382.41

Source: MiDA

ANNEX 3. Work Schedule

Date	Day	Activity	Location
22nd February	Sunday	International consultant arrives in Accra	
23rd February	Monday	Meeting with Nana Ama Aning	Accra
		Courtesy call with MiDA CEO	Accra
		Meeting Matthew Armah, Abigail Abandoh-Sam, MiDA	Accra
24th February	Tuesday	Meeting Investors GAABIC ABC	Accra
		Meeting Investors AMSIG ABC	Accra
25th February	Wednesday	Meeting Investors Seedshop ABC	Accra
		Meeting Investors Quality Agriculture ABC	Accra
26th February	Thursday	Meeting Investors IPSL ABC	Accra
		Meeting Investors CPDF ABC	Accra
27th February	Friday	Meeting with AGPCC at KIA; Meeting with SPEG Pineapple Director	Accra
28th February	Saturday	Notes from interviews/ Drafting report	
1st March	Sunday		
2nd March	Monday	Travel to Capecoast; Visit Seed Shop ABC	Gomoa Abaasa
3rd March	Tuesday	Visit Seed Shop ABC	Gomoa Abaasa
4th March	Wednesday	Visit Quality Agriculture Services ABC	Asesewa
5th March	Thursday	Visit Quality Agriculture Services ABC	Asesewa
6th March	Friday	Public Holiday - Notes from interviews/drafting report	
7th March	Saturday	Notes from interviews/drafting report	
8th March	Sunday	Travel to Tamale	
9th March	Monday	Visit Presbyterian Agriculture Services ABC	Walewale
10th March	Tuesday	Visit Investment Protocol Services ABC	Savelugu
11th March	Wednesday	Visit GAABIC ABC	Karaga
12th March	Thursday	Visit Savannah Farms ABC	Chanzihini
13th March	Friday	Visit AMSIG ABC	Tolon
14th March	Saturday	Visit AMSIG ABC	
15th March	Sunday		
16th March	Monday	Meetings Savannah Farms ABC; grain buyers, suppliers, Northern Zone	
17th March	Tuesday	Return to Accra; Travel to Donkokrom	
18th March	Wednesday	Visit Community Planning Development Foundation (CPDF) ABC	Donkokrom
19th March	Thursday	Visit Community Planning Development Foundation (CPDF) ABC	Donkokrom
20th March	Friday	Return from Donkokrom	Accra
21st March	Saturday	Notes from interviews/ Drafting report	
22nd March	Sunday	Travel to Kumasi	
23rd March	Monday	Visit Victory Feed ABC	Ejura
24th March	Tuesday	Visit Victory Feed ABC	Ejura
25th March	Wednesday	Visit Yaweh Salom Farms ABC	Dome
26th March	Thursday	Visit Yaweh Salom Farms ABC	Dome
27th March	Friday	Return from Kumasi; MiDA debriefing	Accra
28th March	Saturday	Field work ends for ABC evaluation	

Work Schedule for Interim Financial and Social Analysis of Agribusiness Centers Constructed under the First Ghana Compact February 23 - April 17, 2015				
Date	Day	Activity	Location	Contact Person
23rd Feb	Monday	Arrival in Accra		
24th Feb	Tuesday	Meeting with Nana Ama	Accra	Nana Ama Oppong-Duah
		Meeting with MiDA	Accra	Mr. Eson Benjamin
		Investor Shekina	Accra	Mrs. Gina Odartefio
25th Feb	Wednesday	Investor Seedshop	Accra	Mrs. Felecia Nyantekyi
26th Feb	Thursday	Bonyo Victory Feed ABC- Investor	Accra	Mr. Asante Krobea
27th Feb	Friday	KIA PCC	Accra	Mr. Mike Maguire
		MEETING WITH SPEG GEN. MGR.	Accra	Mr. Stephen Mintah/ Mr Yeboah SPEG (Accountant)
		Busaka ABC -Investor	Accra	Mr. Kay Amoah Junior
28th Feb	Saturday	Draft interview notes		
1st Mar	Sunday			
2nd Mar	Monday	Travel to Capecoast, Seed shop- manager	Gomoa Abaasa	Mr. Nat Abdulai
		Seed shop- Seed Inspection Division of Ministry of Food and Agriculture	Winneba Junction	Charles Opoku
		Seed shop- FBO Members	Gomoa Abaasa	Nana Kraa Agyeman
3rd Mar	Tuesday	Seed shop -Gomoa Afransi Vegetable & Maize growers Assn/Vegetable Farmers Assn FGD	Gomoa Abaasa	Baba adam musah (chairman Gomoa Afransi Veg. & Maize Growers Assn)/Joseph Acquah (chairman for Veg. Farmers Assn)
		Seed shop - Poultry Farmer R & J Farms	Awombrew, Winneba Swedru road	Davis Kwame Addo (Poultry Farmer)
		Seed shop - Poultry Farmer Aglow Farms-Farm manager	Swedru Winneba Road	Kwame Ayew
4th Mar	Wednesday	QUALITY AGRIC SERVICES - Investor	Asesewa	Mr. Nicolas Oni- Cole
		QUALITY AGRIC SERVICES-FGD, selected Farmers	Asesewa	Mr. Ibrahim Iddrisu
		QUALITY AGRIC SERVICES - Union Leaders	Asesewa	Isaac Angmor Kwao (chairman) Anner Kene (Secretary)
5th Mar		Draft interview notes		
6th Mar	Friday	QUALITY AGRIC SERVICES - Board Member	Accra on Phone	Mr. Ayesu
		Public Holiday- Meeting notes		
7th Mar	Saturday	Notes from interviews/ Drafting report		
8th Mar	Sunday	TRAVEL TO TAMALE		
9th Mar	Monday	Faranaya ABC -Manager	Walewale, Presby Agric Station	Mr. James Bakaponi/Mr. Dan Tia Sandow
		Faranaya ABC- Wamtitaaba Union	Walewale	Issahaku Wuni (chairman)

Work Schedule for Interim Financial and Social Analysis of Agribusiness Centers Constructed under the First Ghana Compact February 23 - April 17, 2015				
10th Mar	Tuesday	Busaka ABC Managers	Savelugu	Mr. Augustine Ansah Akrofi (Manager)
		Busaka ABC Union -Nataliba Union	Savelugu	Mr. Yakubu Anas (chairman)
11th Mar	Wednesday	Karaga ABC Investor	Karaga	Mr. Ayensu Biney
		Karaga ABC Farmers Gubkatimali FBO	Karaga	Mr. Abukari Sulemana (chairman)
12th Mar	Thursday	SAVBAN Investor and Manager	Chanzihini (Yendi Road)	Mr. Sylvester Adongo/ Mr. Joshua Toatoba
		SAVBAN FGD - Wun-pini farmers group	Gbirma	Mr. Zakarria Abu
		SAVBAN Union -Bandayeli farmers & marketing association	Chanzihini (Yendi Road)	Mr. Imoro Mohammed Obey (chairman)
13th Mar	Friday	Shekina ABC- Manager	Tolon	Mr. Aliyu Yakubu (asst. Operations manager)
		Shekina Union, Waribugu Kukuo Attri yi nya company Limited,	Nyampala	Mr Seidu Yaw (Chairman of Gareizegu Suhiyini women's group) (union chairman)
		Shekina FGD Suglo kougbo FBO	Nyampala	Mr. Waham Mummuni
14th Mar	Saturday	Faranaya -FGD Sugru Vella (patience is good) FBO	Keta Banawa	Mr. Abdul-Rauf Mahamadu (secretary)
		Busaka FGD Kpangmang-Kawunsong FBO	Nyamandu village	Mr. Sumaila Alhassan
15th Mar	Sunday			
16th Mar	Monday	MiDA	Accra	Matthew Armah
17th Mar	Tuesday	Meeting with GACL Commercial Manager	Accra	Mr. Stephen Yeboah
		Travel to Donkorkrom Discussions with MOFA District Director	Donkorkrom - MOFA District Director	Mr. Kofi Amoako Tweneboah
18th Mar	Wednesday	Donkorkrom FGD with FBO Unity and Strength	Fosu	Mr. Patrick Fekpe
		Donkorkrom FBO executives	Fosu	Mr. Emmaunel Agbitor
19th Mar	Thursday	RETURN FROM DONKOKROM		
20th Mar	Friday	Draft interview notes		
21st Mar	Saturday	Draft interview notes		
22nd Mar	Sunday	TRAVEL TO KUMASI		
23rd Mar	Monday	Bonyo Victory FGD: Soro farmer assn/maize & cowpea farmer's association/maize & marketing/the Lord is my Shepard /Nteasee group /mighty asaseban	Ejura	Iddrisu Abdulai (chairman for maize & cowpea) Baah Isaac (treasure), Nuhu Abudka (advisor)/Obeng Joseph (chairman for Mighty Asasebon)
		Bonyo Victory Feed Manager	Ejura	Mr. Ebenezer Effah
		Bonyo Victory Feed Board Member	Ejura	Mr. Abdul Masaud

Work Schedule for Interim Financial and Social Analysis of Agribusiness Centers Constructed under the First Ghana Compact February 23 - April 17, 2015				
24th Mar	Tuesday	YAWEH SALOM ABC - MoFA Director	Dome	Mr. Lawrence Krampa
		YAWEH SALOM ABC Farmer organizer Dome Odokuo FBO	Dome	Mr. Jacob Frimpong-Manso
		Donkokrom Manager	Kumasi	Mr. Francis Owusu-Ansah
25th Mar	Wednesday	Karaga ABC Union Leader Karaga N'Nya-Yam Union Limited	Telephone interview in Kumasi	Malam Idi
		Drafting of preliminary Findings, Conclusions and Recommendations	Kumasi	Tom Easterling and Nana Ama oppong-Duah
		Travel back to Accra		Tom Easterling and Nana Ama oppong-Duah
26th Mar	Thursday	Draft interview notes		
27th Mar	Friday	Shekina ABC Follow-up Meeting	Accra	Gina Odatefio
28th Mar	Saturday	Draft interview notes		
29th Mar	Sunday			
30th Mar	Monday	YAWEH SALOM ABC Investor	Accra	Mr. Yaw Antoh
30th Mar - Apr 2	Monday - Thursday	Consultant's work on follow-up issues in Ghana for PCC evaluation	Accra	Various
3rd Apr	Friday	Holiday - Documentation of findings, conclusions and recommendations, debrief and next steps to completing assignments	Accra	Tom Easterling and Nana Ama oppong-Duah
4th Apr	Saturday	Consultant departs Accra	Travel	
17th Apr	Friday	Consultant submits draft evaluation report	Home	

ANNEX 4. Persons Interviewed

Person, Title	Address
Millennium Development Authority (MiDA)	
Martin Eson Benjamin	Adjiringarnor, East Legon Accra
Mr. Matthew Armah Chief Operating Officer	East Legon, Accra
GACL Commercial Manager - Mr. Stephen Yeboah	Accra, Ghana Airport Company Limited, KIA, Accra
Gina Odartefio	Suit 112, Park View Plaza, Community 2 Tema, Ghana
Mr Seidu Yaw, Union Chairman Shekina Union, Waribugu Kukuo Attri yi nya company Limited,	Nyamkpala, Tolon District, Northern Region
Mr. Aliyu Yakubu (asst. Operations manager) Shekina ABC	AMSIG Resources ABC, Woribogu Kukuo District, Tolon 4th Floor, Total House, 25th Liberia Road, PO Box AH 1240, Achimota, Accra, Ghana
Shekina FGD Suglo kougbo FBO, chairman Mr. Waham Mummuni	Nyamkpala, Tolon District, Northern Region
Mr. Kay Amoah Junior Busaka ABC –Investor	Accra
Mr. Augustine Ansah Akrofi (Manager) Busaka ABC Manager	Savelugu, Savelugu District, Northern Region
Mr. Emmanuel Baidoo, Operations Manager	Busaka Agribusiness Company, Suvulugu Nanton District, Savelugu town
Busaka ABC Union -Nataliba Union chairman Mr. Yakubu Anas	Savelugu, Savelugu District, Northern Region
Busaka FGD Kpangmang- Kawunsong FBO Mr. Sumaila Alhassan	Nyamandu village Savelugu District, Northern Region
Mr. Ayensu Biney Karaga ABC Investor	Karaga, Karaga Nistrict, Northern Region
Karaga ABC Farmers Gubkatimali FBO Chairman Mr. Abukari Sulemana	Karaga, Karaga District, Northern Region
Karaga ABC Union Leader Karaga N'Nya-Yam Union Limited Malam Idi	
Faranaya ABC – Manager Mr. James Bakaponi/Mr. Dan Tia Sandow	Walewale, Presby Agric Station
Faranayaa ABC- Wamtitaaba Union chairman Issahaku Wuni	Walewale, West Mamprusi District, Northern Region
Faranaya - FGD Sugru Vella (patience is good) FBO secretary Mr. Abdul-Rauf Mahamadu	Keta Banawa, West Mamprusi District, Northern Region
SAVBAN Investor and Managers Mr. Sylvester Adongo/ Mr. Joshua Toatoba	Tamale Metro, Northern Region
SAVBAN FGD Wun-pini farmer's group Mr. Zakarria Abu	Gbirma, Tamale Metro, Northern Region

Person, Title	Address
SAVBAN Union -Bandayeli farmers & marketing association Chairman Mr. Imoro Mohammed Obey	Tamale Metro, Northern Region
Mr. Asante Krobea Bonyo Victory Feed ABC- Investor	Crop Research Institute, Accra
Bonyo Victory FGD : Soro farmer assn/maize & cowpea farmers association/maize & marketing/the Lord is my Shepherd /Nteasee group /Mighty Asaseban	Ejura, Ejura District, Ashanti Region
Bonyo Victory Feed Manager- Mr. Ebenezer Effah	Ejura, Ejura District, Ashanti Region
Bonyo Victory Feed Board Member- Mr. Abdul Masaud	Ejura, Ejura District, Ashanti Region
Mrs. Nayntakyi	Gomoa Abasa, Gomoa District, Central Region
Seed Shop -manager- Mr. Nat Abdulai	Gomoa Abaasa
Seed shop- Seed inspection Division of Ministry of Food and Agriculture Charles Opoku	Winneba Junction, Central Region
Seed shop- FBO Members Nana Kraa Agyeman Chairman	Abaasa, Gomoa District, Central Region
Seed shop -Gomoa Afransi veg. & maize growers assn/veg. Farmer's assn FGD	Gomoa Abaasa, Gomoa District, Central Region
Seed Shop - Poultry Farmer Aglow Farms-Farm manager Kwame Ayew	Swedru Winneba Road, Central Region
Seed shop - Poultry Farmer R & J Farms	Awombrew, Winneba Swedru road
Mr. Naftalin N. Omcole, Director	Quality Ag Services ABC, Manya Krobo District, Aseewa
Quality Agric Services-FGD, selected Farmers Mr. Ibrahim Iddrisu	Aseewa, Upper Manya District, Eastern Region
Quality Agric Services -Union Leaders chairman Isaac Angmor Kwao Anner Secretary Kene	Aseewa. Upper Manya District, Eastern Region
Quality Agric Services -Board Member Mr. Ayesu	Upper Manya District, Eastern Region
Donkorkrom- MOFA District Director Mr. Kofi Amoako Tweneboah	Donkokrom, Afram Plains South District, Eastern Region,
Donkorkrom FGD with FBO Unity and Strength Mr. Patrick Fekpe	Fosu, Afram Plains South District, Eastern Region,
Donkorkrom FBO executives Mr. Emanuel Agbitor	Fosu, Afram Plains South District, Eastern Region,
Donkokrom Manager Mr. Francis Owusu-Ansah	Fosu, Afram Plains South District, Eastern Region, Ghana
Yaweh Salom ABC - MoFA Director Mr. Lawrence Krampa	Dome, Sekyeredumase, District, Ashanti Region
Mr. Yaw Antoh, Owner and Manager	Yahwe Salom Farms Ltd. ABC, Ejura Sekyidumase District, near Afromso Ejura town PO Box AN 2389, N Ashante Town Kumasi, Ghana
Yaweh Salom ABC Farmer organizer Dome Odokuo FBO Mr. Jacob Frimpong-Manso	Dome, Sekyeredumase, District, Ashanti Region

ANNEX 5. KII and FGD Guides

ABC RESPONDENT INTERVIEW QUESTIONS

1. Were problems experienced in the transfer of the ABC facility to the new company? Please describe the business functions of the ABC.
2. How many FBOs are associated with the ABC, and how many total members (m/f) are there?
3. Who are its board members?
4. How effective do you see the operations of the affiliated FBOs to be?
5. How sustainable are the FBOs as producer organizations?
6. How would you describe the relationship between the affiliated FBOs and your ABC?
7. How reliable is the supply of products from FBOs, and what are the general challenges encountered in working with these organizations?
8. Approximately how many members (% of total) send their products to the ABC for handling?
9. Other than selling to informal traders, are there other post-harvest handling or marketing services available for smallholders in this area?
10. Approximately what percent of the entire amount of grain crops produced by FBO members is provided to the ABC for handling?
11. What advantage do ABC members have over non-members?
12. What marketing arrangements do the FBO members have for their grain crops that are not sent to the ABC?
13. What would be required for all the members to bring 100% of their commercial grain crops to the ABC for handling?
14. Has the ABC had an impact on the lives of the FBO members?
15. Are the current ABC operations any different from what was originally envisioned?
16. Who are the ABC's clients?
17. Has the ABC or its members benefited from investments by other development projects?
18. Has the ABC or its members benefited from other MiDA investments?
19. Please summarize the ABC's business model: sources of revenue, costs, and profits.
20. What is the fee schedule for ABC services?
21. What is the breakeven product throughput (tons; sacks)?
22. How effective do you believe the ABC to be?
23. How sustainable do you view the ABC to be?
24. Can you please provide information on the status of the escrow account?

25. Have there been unexpected outcomes, either positive or negative, since the ABC began operating?
26. What is your opinion of the operating method for the ABC, as a partnership between a commercial business entity and smallholders?
27. In general, have your early expectations on the outcome of the ABC operations been satisfied, or do you feel disappointment in the results you are now seeing?

FBO LEADER INTERVIEW QUESTIONS

1. Could you please provide a brief history of the FBO?
2. Why was it created?
3. How is it organized?
4. Please provide a brief profile of the members' farming operations:
5. How effective are the operations of the affiliated FBOs?
6. What support would be required by the FBOs in order that they could better serve their members?
How sustainable are the FBOs as producer organizations?
7. Are there internal conflicts within the FBO organizations?
8. How would you describe the relationship between the affiliated FBOs and the ABC? Is this a good partnership?
9. What services does the ABC provide the members of the FBO Union?
10. Of the services that are available to them from the ABC, which services do farmers' normally use?
11. Which of the services do the farmers tend not to use?
12. What would be needed for the ABC to handle 100% of the commercial grain crops by the FBO members?
13. Is the lack of financing a key constraint for the FBO members? Has the ABC provided any help in this regard?
14. Is the FBO Union represented on the Board of Directors of the ABC? How frequently are board meetings held?
15. Do you or any of the FBO Union members convene operating meetings with the management of the ABC?
16. Has the ABC had an impact on the lives of the FBO members?
17. Are the FBO members better off now with the ABC than they were before the ABC was available? Is there a price difference between members and non-members for ABC services?
18. Have the members made any changes in their farming methods or crops produced since the ABC began operating?
19. Are the farmers able to get cheaper inputs through the ABC than from other sources?

20. How would you rate the operations of the ABC on a scale of 1 – 10 (10 is high)?
21. How do you view the cost of services provided by the ABC to the members?
22. Are the charges fair and reasonable?
23. How sustainable are the ABC's operations?
24. What do you believe its situation will be in the next five years?
25. In light of your experience with the ABC since 2012, what improvements are needed?
26. What is your opinion of the method the ABC is organized, as a partnership between a commercial business and smallholders? T
27. If MiDA's program of creating ABCs with commercial operators and smallholders was starting anew, what do you believe should be done differently?
28. What plans do you have for the forthcoming season?

Focus Group Discussion Guide

1. FBO BACKGROUND

- a.) Profile of the smallholders (farm size, crops produced, seasons farmed, etc.)
- b.) Impact of MiDA training on smallholders
- c.) Smallholder attitudes and perceptions of their FBO and benefits obtained from their FBO
- d.) Smallholder attitudes, perceptions, and rating of the ABC; and how important is the FBO to smallholders
- e.) The use of the ABC by smallholders (About how many of them use the ABC for what % of their grain crop)
- f.) Why do smallholders not use the ABC and what would be required for them to use the ABC - what is the problem?
- g.) What services do smallholders want that are not being provided by the ABC?
- h.) How effective has the ABC been as a service center for smallholders?

2. FBO ACTIVITIES

- a.) When were the affiliated FBOs created? Did the members receive training or assistance in FBO association building?
- b.) How long have you been a member of your FBO producer organization?
- c.) Do you consider your FBO to be a strong organization, or does it need support and strengthening?
- d.) How active do you consider yourself to be, as an organization member?
- e.) Your producer organization is part owner of the ABC. Has this had any impact on you?

- f.) What benefits do you gain from the producer organization? What does it do for you?
- g.) Have you received any past training or farming benefits through the producer organization? How effective were these?
- h.) Have you received any training or farming support since the Compact ended in early 2012?
- i.) Has your FBO or its members received any support or assistance from other donor organizations such as USAID or EU?
- j.) Have the FBO members benefited from other MiDA programs, such as irrigation, roads, or electric power?
- k.) What should the producer organization leaders do to make its members better off?
- l.) How would you rate the operation of the producer organization and the services it provides to its members?

3. ABC OPERATIONS

- a.) Your producer organization is part owner of the ABC. What services does the ABC provide for you? Do you feel as if you own a part of the ABC?
- b.) What marketing arrangements do you have? Where do you sell your products? Are you satisfied with your marketing arrangement?
- c.) Have you made any changes in your farming practices (i.e. growing different crops, or producing more crops per year) as a result of the ABC?
- d.) Do you use the ABC to process, store and market your crops? Which crops?
- e.) When did the ABC begin operating? How long have you used its services?
- f.) Have you had any meetings with the management of the ABCs? How many meetings did you have last year?
- g.) Does the ABC provide its smallholder members with i) land preparation ii) seed iii) agricultural inputs iv) credit v) technical support? (Indicate which, if any).
- h.) Do you deliver your grain crops to the ABC for i) cleaning, ii) drying, iii) processing/parboiling, iv) bagging, v) storing, vi) marketing? (Indicate which, if any).
- i.) What amount (%) of your crops do you provide to the ABC for handling and processing?
- j.) What would be required for you to provide 100 percent of your output to the ABC?
- k.) How do you view the cost of ABC services? Are they fair and reasonable?
- l.) Was there a price difference between what you received from the ABC and when you sold to others? Price rainy season ABC versus others; price dry season ABC versus others?
- m.) How would you rate the operation of the ABC and the services it provides you (scale 1 – 10; 10 highest)?

- n.) How sustainable are the ABC's operations? What do you believe the situation will be in the next five years?
- o.) What are your plans for the future? Do you anticipate changing your farming methods or crops produced?

ANNEX 6. MiDA Agribusiness Center Operational Guidelines¹⁹

The United States government through the Millennium Development Authority signed a US\$547 million grant agreement with the government of Ghana to help reduce poverty through economic growth led by Agricultural Transformation. The programme has a two pronged objectives aimed at increasing productivity of high value cash and staple food crops and to enhance the competitiveness of crops on the local, regional and international markets.

The Programme has three projects namely, Agriculture, Transportation and Rural Development Projects. The Agriculture Project has 6 components, one of which is Improvement in Postharvest and Value Chain Services Activities. Under this component of the Agriculture Project, MiDA is required to undertake interventions that will help reduce postharvest losses from the estimated level of 25-30% at the inception of the compact to about 10 -14% by the end of the compact in February 2012.

The Postharvest and Value Chain Services Activity has five key components that include:

- Provision of pre-cooling equipment and packing lines for on-farm pre-cooling of fruits and vegetables by nucleus farmers;
- Construction of field Packhouses;
- Construction of Perishable Cargo Centre at Kotoka International Airport (KIA);
- Institutional capacity building programme for three Ghanaian Institutions to meet IPPC standards; and
- Construction of Agribusiness Centres -- small scale postharvest infrastructure for storage of grains and staple food crops.

Under MiDA's CDFO Programme, MiDA is expected to equip 1,200 FBOs and their members with the capacity to improve on their business and technical skills to ensure that they become highly productive and profitable in their chosen value chain. In order to support the increases of productivity with the appropriate post-harvest handling and marketing support, MiDA is embarking on a number of post-harvest interventions among which is the provision of Agribusiness Centre facilities for the handling and storage of grains and other staple food crops in the Intervention Districts.

¹⁹ Copied from the MiDA Operational Guide for the ABCs, Version 9-16-2011

The following are the key objectives of this document:

- Provide guidance that will ensure that these Centres serve as ‘Structured Market’ for FBOs and their members.
- Develop guidelines that will provide a broad framework for operators of the Centres to guide the day to day operations at the Centre.

1. Agribusiness Centres Background

The Agribusiness Centres are joint ventures between private sector investors and the local farmers with the support of MIDA. Through these joint ventures new agribusiness companies are being created to operate in commercial for profit terms. The centres are equipped with the appropriate infrastructure to provide essential services such as drying, cleaning, storage and related services aimed at enhancing marketing and value chain development for staple food crops. The proposed centres may also be used for the sale of agriculture inputs. The specific objectives of the proposed centres include but are not limited to the following:

- Provide services such as shelling, cleaning, drying, grading, and storage of staple food crops for small scale farmers and FBOs;
- Create the opportunity for farmers to produce for a “structured market”.
- Bring to each centre the management experience, value chain expertise and business contacts from the private investor to render the centres profitable and sustainable
- Introduce weighing and standardisation in the marketing of grains and pulses to create transparency in transactions, build confidence among smallholders and increase profitability of grain marketing;
- Offer to smallholder farmers access to agricultural inputs potentially through credit based on arrangements and agreements between the managers of the centres and the individual farmers or their FBOs.

1.1. Components of the Agribusiness Centres

The Agribusiness Centres will have a combination of the following:

- Structures that will permit compartment storage units for grains and pulses to ensure that operators of the centres can maintain the trust of FBOs and their members for the purposes of sustainability and continuous patronage of the facility;

- Equipment consisting of mobile shellers for maize, rice mills with de-stoners, weighing scales, loading docks, sorting, grading, drying areas and other facilities that will facilitate handling of grains and pulses;
- Retail shop for sale of farm inputs to farmers;
- Offices and rest rooms;
- A shed for housing tractors, trailers, mobile shellers, and other equipment;

These structures will be sited on a minimum of one-acre land, providing sufficient area to conduct business in an efficient manner.

1.2. Selection of Beneficiaries

MiDA through a competitive and transparent selection process selected private investors to become partners and operators of the Agribusiness Centres.

These private sector operators were selected on the basis of some key criteria:

- Location of the centres where they intended operate
- The crops and value chains in which they were involved including current volumes of trade and growth projections
- Evidence of financial capacity to cover financial transactions and/or credibility to access credit from a bank to run the centre
- Evidence of past experience in grain and/agriculture input trading
- The business model presented for sustainable management and operation of the centre
- Willingness to form business partnerships with farmers and their FBOs
- Willingness to earn the equity and shares of the company (up to 70%) through the payment of up to 70% of the cost of MiDA's investment into an account that will be owned and managed by each Agribusiness Centre within a reasonable time frame

The FBOs were selected from among the FBOs that operate within the sites of the selected centres and from those that were trained through the MiDA CDFO project. The selected Private Investors (PIs) were given the opportunity to interact with the FBOs in their catchment area and select twenty of them that they can comfortably work with as partners and ensure that they have a continuous engagement with them to improve their understanding and ensure effective collaboration.

1.3. Rationale for the Agribusiness Centres (ABCs)

The principle underpinning the creation of the Agribusiness Centres is the establishment of a collaborative relationship between producers (mainly FBOs) and buyers that will reduce transaction costs for both parties; improve quality and efficiency in the processing and marketing of products and facilitate access to inputs for farmers. The Centres may also facilitate access to farm inputs for farmers on partial or full credit. Buyers of grain will be able to more readily obtain the grain and pulses necessary to fulfil orders as well as obtain products of improved quality.

By establishing ABCs as joint ventures between private investors and FBOs with the support public funds, MIDA intends to move away from a traditional approach of establishing such centres where the interests and needs of small holder farmers are not fully taken into account. Traditional approaches focus on having the infrastructure, equipment, and working capital to maximize the purchase and trade aspect of the business. Few centres work with farmers to maximize production in the field or to provide farmers access to the inputs and storage.

By moving away from that model, MIDA expects that ABCs will reduce market imperfections and enhance benefits for all actors of the value chain and in particular farmers and their organizations.

With this model, the operator of the facility will need to work with other stakeholders in the value chain, especially to ensure farmers meet production goals. The greater scope of work of the ABCs also provides opportunities for the centres to generate revenue for services or activities offered to farmers and the FBOs including:

- Extension and technical assistance to farmers
- Soil analysis and recommendations on fertilization programs
- Land preparation services
- Sale of farm inputs on cash or credit to farmers and their FBOs (both shareholders and non-shareholders)
- Shelling and drying services for participating FBO shareholders
- Storage services for shareholder farmers for a monthly fee
- Storage of grains and pulses for sale at the optimum profits

To optimize businesses operations, the ABCs operators are strongly encouraged to sensitize farmers during pre-season planning and to assess their input needs. In order to ensure sufficient supply of grain to

fulfil contracts, the centres can explore with the farmers the best way of financing needed inputs. The following approaches are suggestions for how the centres and farmers can work this out:

- Each farmer or FBO can work with the operator to sign a purchase agreement and the ABC can be the guarantor of the debt, if the ABC operator assesses said farmer or FBO as credit worthy.
- The operators of the ABCs can solicit credit directly to banks as ABCs and purchase the inputs from agro-dealers and issue the inputs to farmers on credit.

Operational Concept of the Agribusiness Centres

To operationalize this approach, it is critical to understand the role of each stakeholder in the grain value chain. The key value chain actors in the grains and pulses sector are the following:

- Farmer Based Organizations/Farmers
- Agribusiness Centre Operator and team
- Financial Institutions
- Agricultural input dealers and other service providers
- Soil Analysis experts
- Ministry of Agriculture Zonal Offices

In order to sensitize farmers during pre-season planning, to assess their input needs and to provide the adequate technical, ABCs may want to adopt the Ministry of Agriculture (MOFA)'s model of extension services. Every district under MOFA has between 3 – 5 Operational Zones and each operational zone is divided into a number of operational areas. Each operational Zone is supervised by a district agricultural officer who also supervises a number of Agricultural Extension Agents (AEAs) that work in the zone.

Although the ABCs could opt to sign an agreement with MOFA for the provision of these services for the shareholder farmers, there is a risk that other priorities within MOFA will hinder the ability of MOFA extension agents to provide the required services to ABC farmers on a timely manner. ABCs could choose to outsource these services to a private firm that provides agricultural extension services or hire staff that will be part of the ABC that will have this as their main function. In order to minimize risks of sale of grain by farmers to other buyers or non-payment of credit, it is critical that the ABCs develop close relationships with the farmers through the extension agents and that contact is maintained throughout the production cycle.

If the ABC operator and farmers agree on an approach for financing inputs, farmers should sign a purchase agreement with the ABC operators committing to sell their produce to the Centre

Provide guidelines for resolution of problems between the FBOs and the Private Sector Operators

Provide guidelines for operations of the account where funds for repayment of costs of the Centre will be deposited.

Beneficiaries of these facilities (both FBOs and PIs) will receive training on the contents of this operational manual to ensure that participants have a clear understanding of what their roles and responsibilities so the concept of Agribusiness Centre can succeed.

ANNEX 7. Summary ABC and FBO Interviews

Northern Zone

BUSAKA ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

The anchor investor, Investment Protocol Services Ltd (IPSL) was organized in the mid-1990s as a provider of business consulting and advisory services and worked as a Technical Training Service Provider (TTSP) for MiDA's Northern Agricultural Zone in the Savelugu area providing smallholder training for more than 3,000 smallholder farmers in association development, farming as a business and good agricultural practices in Savelugu Nanton district. It was awarded the MiDA contract in 2011 as the principal investor for the Busaka ABC and began operating in March 2012. It holds 70% of ABC Busaka equity and has three BoD members. The minority owner, Ntaliba FBO Union holds the remaining 30% and has two BoD members. It represents 20 FBOs with about 1,000 members.

The ABC provides postharvest services to FBO members and outside third parties and buys grain (maize and rice) that is delivered to the ABC site. IPSL, in addition to operating the ABC also farms 160 acres, producing maize, rice, and soya. The ABC provided farm inputs and land preparation services with interest free credit to smallholder FBO members during the 2012 and 2013 seasons, with the understanding that farmers would bring harvested grain to the ABC for processing and sale with proceeds used to pay back the input credit. However, few farmers brought their grain to the ABC, preferring instead to sell it to third party traders that paid cash. Consequently, the credit default rate was very high; the company suffered severe losses, and suspended these services. IPSL then invested additional private funds to repay the input costs in order to remain in business. The ABC now works with a small number of reliable smallholders, with an emphasis on women farmers, and continues smallholder training using demonstration plots located at leading farmer fields. The anchor investor indicated that ABC relationships with the FBO remain cordial even with the face of the past input supply problems.

Numerous initial problems were encountered with the MiDA provided facilities and equipment including: a) a maize shelling machine able only to shell de-husked maize that was replaced at ABC expense for a machine able to address member's requirements; b) a supplied rice mill was of poor quality, needing frequent repairs that were made at ABC expense; and c) the single farm tractor provided by MiDA was inadequate to cover FBO member land preparation needs. For the 2014 season, the ABC leased two additional farm tractors from the Savannah Accelerated Development Authority (SADA), the government agency that supports economic development in the three northern regions. However, these tractors were recalled by SADA and are no longer available to the ABC.

FBO MEMBER AND LEADER ASSESSMENT

The evaluation team interviewed three FBO leaders and 11 members. Most farmers farm from 1 to 5 acres planting both rice and maize. The smallholders indicated that all 20 FBOs received fertilizer and seed for one acre in 2012 through the SADA program administered by Busaka ABC. Loan recovery was only 32%. In 2013, 45 groups (822 farmers) were supported with 15 acres each, but only five of these groups were part of the original 20 FBOs selected to work with the ABC at the start of the program. The default rate for this period was 40%. However, female groups registered 100% recovery and as a result, the ABC plans to work primarily with female farmers in 2015.

All 20 original FBO members had received FBO capacity and GAP training that increased yields from 7 to 10 bags per acre and maize increased from 3 to 10 bags per acre. With the removal of the fertilizer subsidy in 2014, farmers reduced fertilizer use and yields again declined. The farmers indicated that the ABC is unable to provide adequate land preparation services and think that mechanized shelling is expensive. Farmers do not use the ABC storage facilities as they have sufficient home storage capacity for at least 10 bags. However, they prefer that the ABC would buy all the grain that they had for sale without the need to deliver it to the ABC warehouse. The FBO members ranked their own FBO at 9.45 and the ABC at 9.5 on a scale of 1 to 10 with 10 as the highest.

FBO leaders described relationships between the ABC and the FBO as cordial and this is sustained through provision of technical services to the farmers. However, they are reluctant to bring their grain to be processed because they have sufficient home storage capacity in their homes and also have community storage for up to 40 large bags in community storage facilities to sell as and when the need arises. Only three farmers have used the ABC storage facilities.

FINANCIAL AND OPERATING SUMMARY

The limited available ABC cash flow data covering 2013 and 2014 indicate that the company received income from input and grain sales, warehouse storage, rice milling, maize cleaning, and tractor service. In 2013 grain sales of GHC 24,000 were recorded compared with GHC 42,415 in 2014; no input sales were recorded in 2013 compared with GHC 4,160 in 2014. Tractor services revenue of GHC 1,362 was received in 2013 compared with GHC 24,521 in 2014. In addition, the ABC received GHC 15,375 for services provided to SADA in 2013, and in 2014, it received GHC 30,564 for services provided to the USAID Advanced Technology Transfer (ATT) Project. In 2013, the ABC recorded a positive cash flow of GHC 2,328, but in 2014 recorded a negative cash flow of GHC 51,426. ABC owners provided additional investment in each year to cover the shortfall.

Data to analyze Busaka ABC throughput were not provided by the respondents and as a result, it was not possible to undertake a breakeven analysis.

SYNERGY

The associated smallholders benefited from the ABC's relationships with different USAID programs, including demonstration and training for improved rice production through the USAID Agricultural Technology Transfer (ATT) project, training provided by its ADVANCE project, and market linkages provided through its Feed the Future (FTF) program.

OPERATIONAL IMPACT

The ABC impact on the lives of the original associated FBO members was significant in 2012 and 2013 when input supplies were provided on credit. With program suspension in 2014 due to poor loan recovery the impact has been virtually nil for the members of the original 20 FBOs. However, the ABC has recruited a new group of smallholders, most of them women who paid back input supply credit in 2014, and the 2015 impact should be greater than in the past. The ABC has very limited demonstrated effectiveness within the MiDA program framework since the original farmers defaulted on input supply repayment, as most of the original FBO members are no longer associated with the ABC. The ABC now works with a new group of farmers for whom the ABC should provide effective land preparation and marketing services, but it is not likely that smallholders will make use of available postharvest handling services, as it is not in the economic interest of farmers to deliver their grain to the ABC for processing and sale.

SUSTAINABILITY

Despite the ABC financial setbacks, the fundamental business of grain handling, storage, and trading is sound. With additional investment and effective management, the ABC should be able to overcome its present difficulties. Although not sustainable as an organization providing trading and related support services to FBO members under the initial project framework, numerous business opportunities are available including renting space to third parties, buying and selling grains, and selling ABC services to individuals on a competitive basis. The principal investor has replenished the facility cash flow, and the ABC is now being managed on a tight budget. The ABC anchor investor company IPSL is planning a company farming venture for 100 acres of maize and 50 acres of rice on land that it now has available for crop production, with the grain produced sold through the ABC. In this context, ABC operations are sustainable over the long term as a continuing business operation.

FARANAYA ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

The Presbyterian Agricultural Services (PAS), an NGOs supported by the Presbyterian Church in Ghana provides agricultural services for the benefit of smallholder farmers through two agricultural stations located in each of three regions: North, South, and Ashanti. PAS was providing extension services to smallholder farmers before the Millennium Challenge Account began operating in 2012. They provided grass-roots support for smallholder farmers in areas such as agricultural enterprise development, alternative income generating activities, helping farmers to organize themselves into FBOs, facilitating micro-credit for female groups to help them engage in activities such as petty trading and shea butter processing, and small ruminant production support.

With initiation of MiDA's Agricultural Project in northern Ghana, PAS was contracted to train smallholder farmers in collaboration with the Food Research Institute in Accra. These two organizations together trained approximately 1,000 farmers that were later organized into the FBOs that became associated with the Faranaya ABC at Walewale. Presently, there are 69 FBOs associated with the ABC, with an average number of 15 members in each organization, for 1,035 members. Approximately 60 percent are female (621 female members). The business model for the Faranaya ABC is that of a commercial grain trader providing postharvest services to members of its affiliated FBOs growing rice and maize as well as external third parties. It also provides limited agricultural production service support. For its grain trading activity, the company enlists the respective FBOs presidents to act as procurement agents to purchase grain on behalf of the ABC from their FBO members. The company pays agents a commission of GHC 1.00 for each bag of grain purchased.

The ABC never provided agricultural inputs on credit to its members due to a continual shortage of working capital and its limited access to bank credit. Maize shelling services are provided to members, with immediate in-kind payment of one bag of maize grain for each 10 bags shelled. The grain is later sold through the ABC trading operation. The ABC provides tractor ploughing services to its members

and third parties alike, with payment required in cash when the service completed. Based on positive 2014 trial program results where tractor services were provided on credit during the planting season with in-kind payment after the grain harvested, the company plans to incorporate this new practice into its operation beginning with the 2015 production season.

The ABC was not able to provide post-harvest processing services during the past two production seasons because the electric transformer installed when the ABC was constructed failed in late 2013. It required 1½ years for the electric power company to replace the transformer at the ABC site. The transformer had been replaced at the time of the evaluation team visit and postharvest handling services have been reinstated.

Problems encountered at the time of MiDA turnover of facilities and equipment to the ABC included: a) lack of a source of water which was partially ameliorated by installation of two water tanks to which water is delivered by truck; b) the rice planter provided by MiDA is too large for smallholder farmers that plant rice in fields that are also planted to tree crops, and c) the MiDA provided farm tractor is not a popular brand in Ghana with limited parts and maintenance support, leading to frequent breakdowns.

FBO MEMBER AND LEADER ASSESSMENT

The evaluation team interviewed eight members from the Sugru Villa FBO, and in addition four FBO leaders and one member from the Walewale FBO. The FBO Union monitors both the actual services provided by the ABC and the prices charged for these services. It also organizes tractor services for FBOs and provides quality control for the services provided.

Farmers in the area cultivate non-irrigated rice, maize, and soybean and farms are typically located from five to seven km from the ABC. The FBO was organized in 2009 with 49 members. Membership was reduced to 20 after completion of the MiDA training program, by filtering out those that were not committed to the program. The group meets every month and ranked themselves as 7.75 with 10 as the highest; the ABC was ranked at 6 out of 10. FBO leaders also ranked the ABC as 6.

Members of all 20 FBOs received MiDA training that resulted in maize yield increases from 4 bags of grain per acre before training to 10 bags after training. Of major importance, the yield increases eliminated the hunger season as production provides sufficient food for the whole year. After receiving the starter pack (containing seeds and fertilizer to plant one acre) each member began contributing a 120 kg bag of maize to a common credit fund to generate income to buy fertilizer for the next season. This fund ensures that farmers have cash available to purchase fertilizer for the next season thereby eliminating the need for ABC provided credit.

The members feel that they are part of the ABC even though it has not been very effective to date in providing services as the mill and the electric transformer were not functional. However, farmers made use of PTO powered shelling services and land preparation, but they note that available land preparation services are limited as the ABC only one tractor for some 1,000 farmers. The ABC provided support by locating technical services under the JICA (Japanese AID program and TRIAS Ghana which focused on maize and soybean through innovative extension project with AGRA. The USAID ADVANCE Project also provided GAPs while SADA also provided some input and tractor services.

Farmers reported that the ABC pays competitive prices and is the preferred buyers. In 2014 they estimated that 10% was held for own consumption, 10% for social needs, and 40% each sold to the ABC and to market women. Soybean is the most profitable with rice more profitable than maize if rainfall is sufficient. However, FBO leaders indicated that only about 10% of the members sold grain to the ABC in the 2013/2014 season and about 40% of grain handled by the ABC was from FBO repayment of input credit on input purchases made by farmers. Union leaders indicated that it would be important for the ABC to organize buying agents within the communities to be able to buy grain from the farmers and even if the ABC could not buy directly from them, the ABC management could organize third party markets like Guinness Ghana Limited to buy from the Union.

The leaders described relations with the ABC as quite good as the ABC management is in close contact through provision of technical services. In terms of organizational management, the conflict management models taught by MiDA support the resolution of conflicts within the FBOs who also have constitutions to implement sanctions and FBO members indicate that the FBO leaders are providing effective leadership and conflict management.

FINANCIAL AND OPERATING SUMMARY

Cash flow statements provided by the Faranaya ABC manager indicate that the ABC almost achieved cash breakeven during 2012, with a reported negative cash flow of GHC 248.20. The ABC reported a positive 2013 cash flow amounting to GHC 13,852.40, while in 2014 it reported a slightly lower cash flow of GHC 10,874.00. Product sales accounted for 63% of 2013 revenue and 76% of 2014 revenue.

ABC throughput for 2013 totaled 289 MT with 74% consisting of rice storage; in 2014, total throughput was 323 MT with rice storage providing 79% of the total. No grain was processed during these years due to the failure of the electric transformer.

The 2014 cash flow breakeven analysis for the ABC based on the above annual throughput (amount of grain stored, processed, and sold) during the season is 129.2 MT. The low breakeven throughput for a

breakeven cash operation is the result of extremely low fixed cost at the facility, and a large percentage of revenue derived from grain trading, with low handling costs.

SYNERGY

The PAS ABC benefits from several programs funded by international NGOs and donors including a) Community Bank providing FBO production financing, b) USAID ADVANCE Project providing FBO capacity building, female education and good agricultural practices training and demonstration, c) PAS agricultural support stations, d) Ghana Commercial Agricultural Project providing FBO production and marketing capacity building, and e) the Ghana Grains company providing capacity building for ABC staff and market linkage support.

OPERATIONAL IMPACT

Overall, the Faranaya ABC impact on its associated FBO members is minimal. The main ABC impact on its associated smallholders is the modest amount of tractor services provided (126 acres in 2014), as well as a limited opportunity to its FBO members to sell grain to the ABC. The entire amount of grain purchased in 2013 was only 39 tons, while in 2014 it purchased a slightly larger amount of 43 tons. Also in 2014, FBO members and third parties stored approximately 255 tons of rice at the ABC for a period of three months. The ABC is partially fulfilling its mission as an agribusiness service center providing limited production and post-harvest handling services to its associated FBO members. FBO Union leaders indicated that five additional tractors and five additional shellers would contribute immensely to their farming operations. Effectiveness could be improved if the ABC purchased smallholder grain on its own account covering own transport costs to the ABC. With respect to credit, at least one FBO requires members to contribute at harvest, one 120 kg bag of grain to a community fund to sell and raise cash to purchase fertilizer for the following season. If implemented by all FBOs the need for the ABC to consider providing seasonal input credit to its members would be alleviated.

SUSTAINABILITY

The Faranaya ABC is entirely sustainable. It has shown a positive cash flow for the past two years, and its overhead costs are very low. Its parent organization supported by the Ghana Presbyterian Church would likely support the ABC in case it had financial trouble. The ABC could be a strong aggregating, storage and processing center in the next five years by expanding FBO member grain purchases on its own account using FBO leaders as purchasing agents.

KARAGA ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

Agricultural Support and More Ltd (AGSL) is the PI in Karaga ABC, and began operations in 2002 as a grain trading company. It was legally registered as a Ltd in 2006 when it provided MiDA training services to smallholders under the First Ghana Agricultural project. It is 70% owner of the Karaga ABC with the remaining 30 percent owned by the Karaga FBO Union. The majority owner holds three seats on the board, and the minority owner holds two seats. The District MoFA Director is a non-voting BoD member.

The major investor indicated that: “Smallholders are the reason for our existence. Most are subsistence farmers that sell only their excess production to generate income and we have to build their capacity for commercial farming.” He further indicated that relationships between the FBO and the ABCs are cordial and the FBO Union Chairman is very effective in resolving issues arising between the ABC and the FBO membership. The main concern is that most FBO members have limited landholdings that hinder the ability to produce a large marketable surplus beyond household requirements. Consequently, their strategy is to store grain at home, as a form of savings, and wait for post-harvest price increases to sell small quantities to meet recurring cash requirements.

The ABC provided training on increasing crop yields, production planning, harvesting and post-harvest storage, and product consolidation for joint marketing. However, more than 90 percent of the ABC income is generated from paddy rice and maize purchased outright from its associated FBO members, as well as from outside third parties. FBO members provide approximately 75 percent of the grain handled by the ABC with FBO leaders serving as marketing agents. The purchasing agents are provided credit on a daily basis and pay cash at the time of purchase. Farmers prefer to sell their grain to the ABC since the company collects the grain from community locations and transports it to the warehouse. The ABC sells this grain to large buyers, including organizations such as the World Food Program, and the Ghana Buffer Stock Company, a government company that buys grain for school feeding programs and for food security stocks.

The company pays prices at or above local prevailing market prices, and provides a commission of about one percent of the value of the grain purchased to its marketing agents. Of the 20 FBOs associated with the ABC, approximately 18 are active. The ABC has space available for grain storage, but few FBO members use this service due to the relatively high cost of transporting the small quantities of grain that they have for sale, along with the storage cost charged by the ABC. For these reasons, few FBO members use the ABC for grain storage and most warehouse space is rented to third parties. Farmers are reluctant to clean their maize as it can be sold easily at the farm gate without cleaning, including maize purchased by the ABC. The ABC does not provide credit to farmers, either for inputs or against their inventory of grains. However, 15 smallholders that have developed good credit histories and larger than average commercial surplus, received inputs and tractor services on credit, but they are exceptions to the general rule. The ABC is planning to open a commercial shop to provide inputs to the farmers this year.

When assets were transferred to AGSL in 2012, the layout of the milling area was considered by the company as unsuitable and processing machines were relocated and re-oriented to improve production efficiencies. MiDA further provided the ABC with a rice de-stoner and rice mill that was less efficient than the one then in use by the company. The one MiDA provided farm tractor is too small to serve the total FBO membership so the ABC decided not to provide tractor services to members in order to minimize allocation conflicts.

FBO MEMBER AND LEADER ASSESSMENT

The evaluation team interviewed three FBO leaders to obtain their views on ABC and FBO operations. The Karaga ABC serves 20 FBOs with 754 members. The FBO union was created in response to MiDA's request for the FBOs to provide an umbrella organization to liaise between the ABC and farmers. Union members were all trained by MiDA during the initial Compact implementation period and received the fertilizer and seed starter pack. They have been operating since the ABC opened in June 2013. The FBOs have meetings every three months. The Union also had four meetings recorded in 2013 and two in 2014. The average rating of their FBOs by the FBO leaders was 4.5 on a scale of 10.0. The average rating of the ABC was 3 on a scale of 10 as it did not provide inputs, credit or tractor services.

The ABC provides warehouse storage and buying of maize and rice produced by the members. The interviewed leaders indicated that about 80% of farmers' grains were procured by the ABC through agents who were FBO members. Farmers sell either paddy or unprocessed maize to the ABC that processes it at its own cost before selling. The ABC price is usually higher than competitive local prices, and is never lower than prices offered by other buyers. If the ABC is buying, the farmers will sell their grain to the ABC. At the time of harvest, farmers sell about 50% of their grain to the ABC with the

remaining 30% sold in small quantities when prices improve or when farmers need money to meet household expenses. In 2013, seed and fertilizer was provided to FBOs through the MOFA block farming project (without ABC involvement) but this program was not implemented in 2014. Farmers are mostly interested in production services, and are not interested in using ABC post-harvest services such as drying, cleaning, and milling. About 15% of members received ploughing services in 2014.

FINANCIAL AND OPERATING SUMMARY

Karaga ABC Limited's audited year-end financial statements reported strong profits for the agribusiness center during its 2013 and 2014 operating years. For 2013, it reported profit after tax of GHC 110,027 while for 2014, profits after tax amounted to GHC 150,365. Owner's equity increased from GHC 50,000 at the beginning of 2013 to GHC 310,392 at the end of 2014. This reflects good financial management and good cost control.

Total throughput during 2013 was 7,000 MT, while the reported amount for 2014 more than doubled to 19,200 MT. These figures include grain volume stored in the warehouse and sold, maize volume cleaned and shelled, and rice volume processed during the year. Based on available 2013 the calculated cash flow breakeven volume was 2,371 MT of grain. This is 2.37 times the warehouse capacity and only 34% of reported 2013 throughput.

SYNERGY

The associated FBO members have benefited from the transfer of knowledge and the training received through the Karaga ABC's collaboration with development projects such as the USAID/IFDC and USAID/ADVANCE development projects that are carried out in the Northern Region. The smallholders have not benefited from any other MiDA investments.

OPERATIONAL IMPACT

Karaga ABC activities have a major impact on 75% of the original associated FBO members through its efficient purchase of on-farm smallholder member surplus commercial grain for which it pays cash. FBO Leaders coordinate community level purchase for which they receive a commission. The ABC is able often to exceed prices paid by traditional local traders as they have an efficient product aggregation model and have established a stable sales relationship with larger scale buyers. The ABC does not provide inputs or credit to FBO members thus forestalling the serious problems associated with credit default that has been the cause of major tensions and disagreements between many other ABCs and FBOs. Tractor services provided to a small number of FBO members fully utilizes the capacity of the MiDA provided tractor. The ABC initially increased incomes for 75% of its more than 750 original members by being a

reliable buyer of smallholder surplus grain production usually paying a price premium over traditional traders. However, it has a very limited effect in terms of providing agricultural and post-harvest services as a partner with its associated FBO members, but provides useful training on increasing crop yields, production planning, harvesting and post-harvest storage, and product consolidation for joint marketing. It provides effective land preparation, and inputs with supporting credit provision to 15 FBO members that have become larger commercial operators with a positive credit and efficient production histories.

SUSTAINABILITY

The Karaga ABC business model is entirely sustainable as a commercial, business operation. The company is a successful business operation providing benefits and training to farmers in the local communities. It has shown strong profits during the past two years, and its equity position is sound. It has a successful business model.

SAVBAN ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

Savannah Farmers Marketing Company (SFMC) is an agricultural marketing company created by The Association of Church-based Development NGOs (AGDEP) of Ghana, along with the Dutch-funded international NGO, ICCO. It provides market access for farmers in northern Ghana. It works to organize the entire value chain for smallholder farmers from production to buyers with services designed to aggregate smallholder production volume to attract large-scale buyers. The primary focus is on maize and soybean, along with sorghum in the drier areas of northern Ghana. It reportedly has around 21,000 associated farmers as members, approximately half of which are women.

SFMC is the Savban ABC majority owner with the Bandayeli Farmers and Marketing Association, a Union of twenty FBOs, with 826 associated members, as minority shareholders. The ABC was turned over to Savban ABC in May 2012 and began operating as a commercial business in June 2012. It is associated with 20 FBOs having 826 members and also works with some of the 21,000 farmers associated with the majority owner. The ABC is equipped to process maize, soybeans, and rice and its primary business activity is buying and selling grains, and providing post-harvest services for FBO members and third parties. Soybean is the major grain crop handled followed by maize, while rice processing and trading is quite limited. Savban ABC provides tractor services for land preparation and grain transport, and commercial maize shelling services. The company's main clients are large agro-processors including Ghana Nuts, Alpha and Omega, Golden West, and Vesta Oil and is interested in buying soybean as it is more profitable than rice or maize and bought 600 mt from third party farmers in 2004. Most FBO members do not grow soybean.

Initially, the ABC provided input supplies on credit to some of its FBO members. However, debt repayment was disappointingly low with a 70% recovery rate. Consequently, the company has become more selective in providing input supply credit causing friction with some FBO membership. Few FBO members bring their grain to the ABC for processing as expected under the MiDA program as smallholders prefer to store their grain at their homes or in their villages where it can be sold easily in

small lots to local buyers for cash. ABC staff feel that FBO capabilities are quite weak with leaders located in areas distant to the major farming areas where farmers are located and that they do not have a strong commercial approach to farming.

Initial problems experienced when the MiDA provided facilities and equipment was turned over to the ABC include: a) the maize sheller capacity was too small for the volume processed and could only shell de-husked maize; b) the grain processing shed did not provide sufficient storage space, and poor equipment layout resulted in excessive handling, c) original wiring was inadequate to handle the electrical load and had to be reinstalled at company expense, d) the one farm tractor cannot meet the needs of all FBO associated members, and its capacity is too small.

FBO MEMBER AND LEADER ASSESSMENT

The FBO was created in 2005 under the MiDA development program and farmers produce maize, yam, cassava, groundnut, soybean, and farm from one to five acres all on non-irrigated land. They are located on average, 20 km from the ABC. MiDA training received prior to ABC startup greatly improved yields, but subsequent lack of fertilizer and recent drought conditions reduced yields to levels existing prior to training that included provision of the starter input pack. Farmers ranked their FBO at 6.3 on a scale of 1 to 10 with 10 as highest. Members ranked the ABC at 6.6 while FBO leaders ranked it at 3.0. They are basically satisfied with the ABC, but would like it to buy their grain and provide inputs on credit. The ABC works with about 20 farmers per FBO which initially received fertilizer and seed based on a credit assessment by the FBO leadership. Because of low yields (7 bags per acre instead of the planned 15 bags per acre), farmers did not provide the ABC with maize; instead it was stored in farmer's barns. Farmers generally provided rice and maize to repay input credit, but low yield caused some default. The original target was that each farmer would provide 5 (1000 kg) bags that would yield some 500 mt from the original 1,000 members. Farmers indicated that they are willing to use the ABC milling and par boiling services but the ABC would not cover transport costs to the center. They generally felt that the ABC was effective in linking smallholders to technical services, but tractor services were limited as the ABC had only one tractor. The ABC has not served as a reliable buying center nor has it been able to meet rice processing needs. FBO leadership indicated that the relationship with the ABC is not very good. Reasons for this include that the ABC buys mainly soybean, which farmers don't produce. They don't buy the variety of rice produced by farmers but won't provide seeds of the desired variety;

FINANCIAL AND OPERATING SUMMARY

Savban ABC showed a loss of GHC 27,727 for 2013 and GHC 21,729 for 2014 during both of its first two years in operation on total revenue of GHC 280,681 and GHC 181,298 respectively. Total

throughput for 2013 was recorded at 1,547 mt compared with 590 mt in 2014 when the ABC did not provide services for rice milling, maize cleaning, or maize shelling. The only post-harvest activity was grain storage at the warehouse, and grain trading. In 2013, the ABC stored 695 mt and provided rice milling, maize cleaning, or maize shelling services for an additional 852 mt of which 87% was for cleaning maize.

The 2014 ABC breakeven point was calculated at 1,056 mt with calculations based on grain storage revenue. High operating costs, particularly high overhead costs are the major contributor to the high breakeven figure.

SYNERGY

The ABC received two tractors during 2013 and 2014 from SADA, a government agency, to increase land preparation capability for FBO members who also benefited from the International Fund for Agricultural Development's Northern Rural Growth Program (NRGP) that supports market linkage for cereals value chains in northern Ghana.

OPERATIONAL IMPACT

The greatest ABC impact to FBO members is from tractor services with a total of 476 acres ploughed in 2014. Savban's grain purchases and the post-harvest services provided by the ABC have a very limited impact on FBO members who prefer to store grain at home or in village storage facilities. During the 2013-2014 season, the company purchased only 19 mt of maize from FBO members, compared to 345 tons purchased from non-members. No maize was purchased from FBO members during the 2014-15 season and only a limited number of FBO members used the ABC provided post-harvest processing and storage services. It has not developed as a comprehensive agribusiness service providing organization as envisioned by the MCC program objectives as it processes and buys only a limited amount of FBO member grain and does not provide input supplies or conduct farmer training and demonstration activities.

SUSTAINABILITY

Despite the Savban's negative profitability during the past two production seasons, it can be sustainable over the long term by expanding grain processing activities and grain purchases from neighboring non-FBO members even if none of the FBO members patronizes the ABC. Moreover, SFMC has shown its willingness to invest additional funds to offset the financial losses incurred by the ABC over the past two years.

SHEKINA ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

Amsig Resources was organized as a partnership in 2005, and in 2012, it became a limited liability company and began farming maize. Under the first MiDA Ghana Compact, it provided FBO smallholder training to more than 5,000 smallholders in the Afram Basin Zone and the Northern Intervention Zone. As the anchor investor, Amsig Resources holds 70% of ABC equity and three BoD members, with the Atiri Yi Nya Farmers' Cooperative Union the minority member holding 30% equity and has two BoD members. It represents 20 FBOs having about 1,000 members. Amsig Resources identifies helping smallholders become competitive in order to gain access to markets as the major ABC objective. The only services requested by FBO farmers are provision of fertilizers and land preparation. For example, in 2012 only two farmers brought grain to the ABC, in 2013 there were three and in 2014, there were four. To meet the land preparation need, AMSIG Resources purchased two additional tractors and continues to provide agricultural inputs to FBO members. The ABC also provides extension services through the dissemination of technology that others possess and links qualified associated FBO members to the formal financial sector for possible credit.

Shekina ABC continues to work with the original group of 20 FBOs associated with the ABC, whereas Amsig Resources has established parallel business relationships with 170 additional farmers that operate at three nearby irrigation sites at Bontanga, Golinga, and Busaka, as well as a group of 400 female farmers, and approximately 250 farmers that farm in the vicinity of the ABC. Amsig Resources buys primarily rice and maize, on its own account, with rice accounting for 75% of throughput volume. It buys from the ABC associated FBO members and other farmers to fill outstanding orders, and markets the grain for its own account. However, members are not interested in using the ABC postharvest services but 70% of the grain received by Amsig Resources through the ABC is in repayment of input purchase debt. Instead of requiring farmers to deliver grain to the ABC, Amsig Resources buys grain from farmers in their communities.

Amsig Resources (not Shekina ABC) provides input supplies (seed and fertilizer) on credit to FBO members with mixed results. Credit was first supplied to farmers in 2012 and those defaulting were removed from the list of future recipients. Beginning in 2013, farmers were required to provide a GHC 50 deposit to receive fertilizer. Amsig Resources buys grain from its associated FBO members and other farmers to fill outstanding orders, and markets the grain for its own account. By purchasing grain from farmers in their communities, instead of requiring them to deliver it to the ABC, it had recovered, by 2004, all unpaid accounts from the previous periods. Amsig Resources works closely with the Ghana Grains Council to create a credit program for warehouse receipts at the warehouse and its managers are now being trained on the required procedures and it sells to buyers including the National Buffer Stock, the World Food Program, and the national school feeding program. Maize is supplied to poultry farmers, and ground nuts are sold to buyers for processing into health supplements by them.

MiDA provided equipment included a tractor and equipment for land preparation and planting; machinery for maize shelling and cleaning; and for rice cleaning, de-stoning, and milling. The rice mill was found to be defective and the company will be investing in a new mill to expand capacity. Consequently, the ABC now out-sources most of its rice milling services. There is no holding area for incoming grain for processing nor for processed grain that is waiting to be removed. In addition to modifications required for grain processing, the company will also pave the rear area adjacent to the warehouse to install a platform to be used for sun-drying grain. AMSIG Resources invested in two additional tractors in addition to the one provided by MiDA in order to provide land preparation for the maximum possible number of the members.

FBO MEMBER AND LEADER ASSESSMENT

The evaluation team interviewed 17 FBO members and one FBO leader from the 20 FBOs. Five FBOs are women only groups who undertake agro processing activities; the other 15 FBOs represent producers. Farm sizes range from about 1-3 acres for maize and 3-4 acres for rice cultivation, which farmers consider the more profitable crop. Female farmers had smaller farms with an average size of 1 acre for maize and 2 acres for rice. The predominant crops cultivated in this location are rain fed maize and rice. All ABC associated farms were trained by MiDA in FBO capacity building and good agricultural practices. Of the twenty FBOs, 10 benefitted from the Purchase for Progress and World Food Program Project. Each FBO received a reaper and a thresher to support their operations. In addition, the community received warehouses with a storage capacity of 30 metric tons. As a result of the training rice yields increased from 500 kg to 1,275 kg per acre with maize yields at 1,440 per acre. Because of increased yields, the “hunger season” from March through October was eliminated as increased yields provided sufficient surplus to store to the next harvest.

Small holders are quite happy with their FBOs and make good use of the community warehouse built with WFP support. FBO leaders indicate that they have very good contact with the ABC manager and with the anchor investor who is responsive to FBO member issues. Members pay dues and support each other at social events like weddings and funerals. They also share labor on each other's farm and use such opportunities to learn and remind themselves of GAPs. They ranked their FBO 8.6 out of 10 on average; however, men provided a ranking of 10 compared to women with 7.9 ranking. As the men are usually in production, it is possible that the FBO supports production better than processing and marketing which are the main activities for women. The FBO holds monthly meetings for its members and at the time of the evaluation visit, FBO records indicated that 30 out of 49 members had paid their monthly dues of GHC1.00.

Respondents were satisfied with the technical assistance received from the ABC and its support in sourcing third party grant and training but members prefer to store grain in their community storage facilities rather than use ABC drying and storage facilities. Although receiving only a marginal amount of tractor service and input supplies, and their preference that the ABC buys more of their grain, they feel they are part owners and ranked the ABC at 9.2 on 1 to 10 scale with 10 as the highest. The interviewed leader ranked the ABC as 9.

FINANCIAL AND OPERATING SUMMARY

AMSIG Resources does not maintain a separate set of accounts for Shekina ABC. Instead, ABC financial results are consolidated within the general account of the parent company. In this manner, the parent company protects the ABC from the risks involved in extending credit for agricultural inputs to the associated FBO members, but also eliminates the possibility of trading profits being accumulated by the ABC. Consequently, financial analyses and breakeven calculation was not possible for Shekina ABC.

SYNERGY

The ABC has benefited from the ADVANCE program funded by USAID/Ghana. This program provided a matching grant to the parent company, for purchase of a rotovator and the additional seed planters that the ABC now has available for its use. The Shekina ABC has benefited from MiDA investments in the Bontanga and Golinga irrigation schemes. Farmers at the two schemes are associated with AMSIG Resources, and sell their rice to the company.

OPERATIONAL IMPACT

Shekina ABC has had considerable impact on the lives of its FBO members through its land preparation and good practices training and demonstration programs. Successful implementation of a producer

advance credit program through Amsig Resources has reduced the small farmer risk profile. As a result, FBO members have experienced increased yields, and higher productivity, and some reduction in costs (i.e. the reduced amount of seed that is planted due to better planting practices, such as drilling instead of broadcasting, can reduce seed use from 50 kg per acre to 20 kg per acre). Furthermore, smallholders have adopted contemporary agricultural technology. Of the ten ABCs that the evaluation consultants visited during the assessment, the operation of the Shekina ABC is most closely aligned with MiDA's original objectives for effective ABC operation as an agribusiness service centers for the benefit of smallholders. In this regard, AMSIG is providing all the agricultural and post-harvest services that were envisioned by MiDA. Grain is purchased from farmers on the AMSIG account rather than on the ABC account, thereby reducing FBO member risk.

SUSTAINABILITY

The ABC operations are sustainable over the long term. AMSIG Resources is profitable, and its activities are closely linked to the ABC. Incorporating the expanding number of Amsig Resources cooperators into the Shekina service providing activities can also increase the number of active ABC FBO members.

Afram Basin Region

AFRAMCO ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

Community Planning Development Foundation (CPDF) is the PI in the Aframco ABC with 70 percent ownership in the facility. CPDF is owned by two Accra businessmen and engages in community mobilization, construction of social infrastructure, and provides training to community groups on financial management, bookkeeping, and group dynamics. It worked under contract with MiDA as a Technical Training Service Provider (TTSP) in the Afram Plains under the first Ghana Compact. Before MiDA's program for ABC construction and development was initiated, CPDF operated a FBO service center near the current location of the Aframco ABC that trained farmers, sold agricultural inputs, and provided tractor services to smallholder farmers. After selection by MiDA to implement the current program CPDF joined forces with the Afram Plains Farming and Marketing Company (APFMC) FBO Union (the minority owner) to create CODECOM as the ABC operator.

ABC construction was completed during the first quarter of 2012 but the facility did not begin operating until 2013 due to a considerable number of corrections that were required to be completed by the construction contractor. The ABC provided some tractor services and FBO members received credit advances for the 2013 season that were to be repaid from maize sales. However, they did not deliver their products to the ABC for processing and storage, the credits were not repaid, and the ABC suffered substantial losses. The manager resigned in late 2013 for health reasons and the administrative officer then assumed the position of acting manager. He was charged with embezzling company funds in early 2014 and the ABC did not operate during the 2014 season. The ABC now has a temporary caretaker manager and at the time of the evaluation the ABC was closed.

FBO MEMBER AND LEADER ASSESSMENT

Twenty FBOs with 978 members were originally expected to associate with the FBO, but this did not occur. Evaluation team meetings were held with 19 members and seven leaders of the Senugrome, and

Strength and Unity FBOs. Farms were located on average 14 km from the ABC. Most are subsistence farmers with production just sufficient to meet household needs and each FBO had 50 members.

Members of both groups received training from MiDA in FBO capacity building and good agricultural practices, which was complemented with the starter pack of fertilizer. Deliberations with the farmers revealed that the training on good agricultural practices (GAP) and FBO capacity building were very useful. For instance, knowledge acquired and adoption of GAP from the training helped farmers increase their yields from their previous 3- 4 bags (100 kg per bag) per acre to about 10 bags. Discussions with the district MOFA director, who is a member of the ABC BoD, indicated that these yield increases were retained after training.

FBO leaders said that the APFMC Union with the ABC “did not go well because the kind of support and help they expected from the Union did not come”. The Union did not function as they expected, since it did not provide farm inputs. FBO members indicated that tractor service is required, as well as farm inputs on credit. Larger farmers with more than 10 acres cannot function without tractor services. One farmer indicated that he had purchased a tractor on credit but could not make the payments on the loan which carried an interest rate of 36% per annum. It appeared to the evaluation team that the Union was now completely inactive.

Although farmers interviewed are aware that they are part owners of the facility, they indicated that they have not patronized the services of the ABC. FBO members said the ABC management promised to buy their harvested maize but this has not been the case. Due primarily to the distance from their farms and homes to the ABC center, they continue to store grain in their barns at home without processing them at the ABC and sell for cash to local market women or other traders. The non-use of the ABC by FBO members was reflected in the ranking of the facility which scored 2 on a scale of 1 to 10 where 1 is the worst and 10 the best.

The Senugrome FBO members rated its FBO at 6.0, and the Unity in Strength members rated its FBO at 7.0, both on a scale of 10.0. These fairly high ratings were provided due to the knowledge the groups obtained from the original MiDA training and knowledge gained from the training and starter packs received, that provided a positive impact on their production yield.

ABC FINANCIAL AND OPERATING SUMMARY

The ABC was closed at the time of the assessment and financial and operating information for the period of time that the ABC operated as a commercial business was not available.

SYNERGY

Synergy with other donors or NGO groups was not experienced.

OPERATIONAL IMPACT

Aframco ABC impact was minimal and limited to providing tractor services to a small number of FBO members in 2013. Some FBO members received credits for ABC provided inputs in 2013 but most defaulted. Manager resigned for health reasons in 2013 and administrative officer appointed to the position was charged with embezzling funds and removed. ABC did not operate in 2014. The ABC did not provide the planned production and post-harvest services to its associated FBO members after the first year.

SUSTAINABILITY

Under the current situation, the Aframco ABC is not being operated and therefore not sustainable. However, the caretaker manager and the Board of Directors are in the process of reorganizing the operating company by bringing in a viable partner to assume financial and operating responsibility for the ABC. With a new infusion of capital and the availability of effective management, the ABC could recover, but most likely not within the framework of the current project objectives.

DOME-AFRAMSO ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

The anchor investor in the Dome-Aframso Agribusiness Center is Yahweh Salom Farms (“The Lord is Peace”) a sole proprietorship that holds a 70% equity position in the Dome-Aframso ABC. Yahweh Salom Farms is engaged in maize production and trading and provides agricultural services to selected farmers including land preparation, improved seed, and agricultural inputs. Maize is purchased at prevailing market prices after harvest and marketed to large buyers including the government marketing company Ghana Food Distribution Corporation. Since some 80% of maize grown in Ghana is used in the poultry industry, the anchor investor believes that the future of maize production and marketing is positive. MiDA selected the proposal as it expressed experience in working with smallholder contract farmer out growers. At that time, the company had no maize storage warehouse and the concept of the agribusiness center and its storage warehouse was an excellent fit with his business.

Maize brought to the ABC by farmers is dried, cleaned, and stored and then sold after the expected seasonal price rise. The ABC also provides commercial ploughing for its FBO members and third parties, and limited maize shelling for FBO members. After MiDA turned equipment and facilities over to Dome-Aframso ABC in 2012, the owner worked to orient and organize farmers within their participating FBOs as associates of the ABC.

District FBOs have been, in the past, supported by the MOFA Block Farming Program that provided agricultural inputs to smallholders at subsidized prices. Forty-five associated FBO members received inputs from MOFA on credit during 2012, with an 89% credit recovery rate. During 2013, about 60% of the FBO members received inputs from MoFA with repayment guaranteed by the ABC, but only four repaid the amount owed. This left the ABC with a large debt to MoFA for the unpaid amounts that it had guaranteed. During 2014, the government’s Block Farming Program and its fertilizer subsidy program ended, but the ABC offered to provide fertilizer to FBO members from MoFA’s carryover stock of fertilizer at full price under the condition that they had to repay their old loans from 2013, as well as providing an up-front “commitment fee” payment to obtain fertilizer for the 2014 season. Only two of the

FBO members accepted fertilizer under these conditions. The new ABC policy created tensions with FBO members and subsequently the originally associated FBO members no longer work with the ABC. In response, the ABC has initiated a program to enlist a smaller number of FBO associates who better understand the ABC business relationship role.

The ABC experienced considerable difficulty with the equipment provided by MiDA including: a) the simple, electric maize sheller would only work with de-husked grain and was not portable, could not be used in farming communities, and consequently has been little used; b) the diesel fuel powered maize dryer required major adjustment before operating properly, was inefficient, and was converted to propane at the owners expense; c) the farm tractor was of poor quality, experienced numerous breakdowns and many costly repairs; d) the provided maize planter does not consistently space seeds so is little used; and e) the water well dried up soon after ABC opening and a new well had to be dug. The many repairs and adjustments required to equipment received by the ABC in mid-2012 curtailed 2012 technical operations and they only began operating in early 2013.

FBO MEMBER AND LEADER ASSESSMENT

Dome-Aframso ABC was linked initially to 20 FBOs having 975 associated members but never established working relationships with most of them. Moreover, FBO members were unwilling to meet with the evaluation team as they currently have no working relationship with the ABC, but the evaluation team met with one FBO leader of Dome Odo Kuo FBO. This FBO has 50 members including 17 females. Average member farm size is 5 acres. Maize is the primary commercial crop and most members are subsistence smallholders.

The FBO was organized in 1955 and members received the normal MiDA training for production, farming as a business and association building during the first phase of the MiDA project. The FBO is now a legal entity and can conduct business activities. The FBO has accumulated a modest savings account of GHC 3,000 but the FBO leaders are conservative and unwilling to invest the funds in programs such as providing inputs for the FBO members. They are concerned that the members would not repay the amount they are provided. The FBO leader is of the opinion that FBO members expected that the ABC would operate in a manner similar to MoFA and other government agencies and forgive debt for non-payment of the provided agricultural inputs.

The interviewed leader brought his maize to the ABC the first year of operation and paid drying, cleaning costs and storage costs for one month. The ABC was unable to find a market for the maize, so it was sold by the farmer on the local market at the same price as was offered prior to cleaning and drying. Since

total volume had declined after cleaning and drying an additional loss was incurred. As a result, the FBO leader no longer uses the ABC facilities.

The only buyers that accept cleaned and dried maize in the Ashanti region are institutional buyers such as the World Food Program (WFP) and poultry farmers. Both require maize with moisture content (MC) less than 12.5%. However, both markets are difficult for small-scale farmers to enter since the WFP purchases its maize through a competitive bidding process, while the poultry farmers are slow to pay for their purchases, and also require that farmers re-bag their maize into 50-kg mini-bags before delivery. This is costly for smallholder farmers, and as a result, poultry farmers normally buy their maize from aggregators.

Tractor services are now the most important support that is required by FBO members. However, the ABC owned tractor has limited capacity and can plow no more than 10 acres per day. This is insufficient to meet FBO member's requirements.

FINANCIAL AND OPERATING SUMMARY

The ABC reported a financial loss of GHC 100,342 for the 2013 year and a loss of GHC 117,673 for 2014, primarily the result of the high cost of depreciation expense reported during each of the two years. However, since the ABC facility and equipment was provided as a grant to the Dome-Aframso company and was not an investment by the company, it is not clear that the depreciation charge is appropriate expense against ABC operations. By limiting the analysis to only the amount of cash flow provided by the ABC, it had a positive cash flow of GHC 25,158 during 2013 and a positive cash flow of GHC 7,827 during 2014. Net revenue from maize sales of GHC 7,320 were recorded for 2013 and increased to GHC 21,141 in 2014. Revenue from services excluding land preparation was GHC 46,654 in 2013 and GHC 20,346 in 2014. Throughput in 2013 was 1,437.5 mt compared with 312.65 in 2014. Based on a 2013 throughput of 1,437.5 MT the cash flow breakeven point was 859 MT.

The ABC did not provide commercial plowing services during 2014 because the tractor was out of service during the planting seasons. Commercial maize shelling services were not provided during either of the two years because the maize sheller was not suitable to meet farmer requirements. The ABC engaged in maize trading during 2013, and much of the maize that was purchased by the ABC was cleaned and dried for its own account. However, only four tons of the maize was cleaned and dried at the ABC were brought there for processing by the FBO members. During 2014, the ABC did not engage in maize trading, and all maize cleaning and drying services provided that year were for the benefit of outside, third parties. None of the associated FBO members brought their maize to the ABC during 2014.

SYNERGY

There has been little synergy between the Dome-Aframso ABC and other NGO and donor programs in the area. However, a close working relationship has been between the ABC and various MOFA food programs that provide agricultural inputs at a subsidized cost to smallholders.

OPERATIONAL IMPACT

2014 impact of the ABC on its associated smallholders is virtually nil, as FBO members have refused to work with the ABC since 2013 after they defaulted on input supply credit provided them by the ABC. FBO members no longer use post-harvest services and the only service currently provided by the ABC to a limited number of new FBO members is land preparation. The ABC is not fulfilling its mandate of being an agricultural service center for its associated FBO members.

SUSTAINABILITY

Despite its present difficulty, the Dome-Aframso ABC can sustainably operate over the long term following the recovery plan developed by the anchor investor. This includes: a) focusing on a collaborative arrangement with a smaller group of smallholders as the basis for increasing the throughput of the facility and rebuilding the relationships with them; b) re-initiating maize trading through the ABC and focusing on better-paying, industrial customers; and c) increasing throughput by providing post-harvest maize processing and storage services to large-scale grain traders.

VICTORY FEED ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

Victory Feed Enterprises, the PI, was created nearly fifteen years ago as a manufacturer of poultry feed. In 2012, after being awarded a contract to organize the ABC, it recruited 20 FBOs in the area with 1,035 members that had been previously trained by MiDA. In collaboration with the selected FBOs, Victory feed created the Bonyon Victory Farmers & Marketing Company, Ltd. (BVFMC) as the anchor investor holding 70% of the Victory Feed ABC equity with the FBO Union holding the remaining 30%. However, one interviewed ABC senior staff and one interviewed FBO leader indicated that they had no knowledge of the ABC partnership arrangement with the FBO Union.

The ABC operation had a successful beginning in 2012 when FBO members and third parties brought a considerable amount of maize to the facility for processing almost filling the ABC storage capacity. However, throughput for 2013 and 2014 never exceeded 1/3 of total capacity for several reasons. First, large year-on-year weather induced production and price variability between 2013 and 2014 discouraged the ABC from selling stored grain until prices recovered in 2014, resulting in limited storage capacity to buy the 2013 crop. Second, FBO membership fallout in 2014 greatly reduced FBO sales to the ABC.

The ABC was linked to the MOFA supply of subsidized inputs during 2012 and 2013. For the 2013 season, FBO members were required to pay a 50% “commitment fee” to obtain subsidized fertilizer. Since most smallholders pay only for fertilizer obtained for the previous season in order to qualify for fertilizer on credit for the current season, the farmers did not pay money owed to MOFA for the 2013 season, as this was the last year of the MOFA subsidized fertilizer program. Although the ABC was eventually able to collect 100% of the outstanding balances, the collection process was difficult and the input credit program was suspended. It appears that if government subsidized fertilizer is not available few farmers will purchase it from commercial dealers.

Numerous equipment and operating problems surfaced after MiDA turned the ABC facility over to the operating company including: a) insufficient space in the maize processing area resulting in excessive

handling of maize being processed, b) lack of a separate holding area for unprocessed field maize away from processed food grains to eliminate potential of passing field-borne pest infestations to processed material, c) maize dryer of inadequate capacity requiring initial diesel fuel source to be changed at owner expense to natural gas, d) poor farm tractor quality requiring frequent costly repairs, e) maize sheller of inadequate capacity, only able to handle de-husked maize, was not portable and had to be replaced at ABC expense. The ABC purchased, at its own expense, an extra tractor and constructed a new concrete receiving area and concrete pad to sun-dry maize.

FBO MEMBER AND LEADER ASSESSMENT

The evaluation team interviewed representatives from six associated FBOs and one FBO leader. At the time of the interview, the initial 20 FBOs with 1,035 associated members had been reduced to five of the original FBOs plus one new FBO bringing the associated membership total to 304 including 90 females. Farm sizes ranged from 10 to 60 acres on which maize, cassava, yam, and cowpea are cropped, although cowpea is rotated with maize.

All members had received previous training on good agricultural practices, record keeping, accounting, and other FBO capacity building skills. The impact of the training included immediate crop yield increases including maize yield from 6 bags per acre to about 11 bags and cowpea yield increases from 1.5 bags per acre to 2.5 bags per acre on average. However, the 2013 drought and removal of the fertilizer subsidy program in 2014 resulted in maize yields as low as six bags per acre.

FBOs appeared to be strong, as all the six FBOs had instituted monthly meetings. Meetings were held regularly although attendance was generally limited to about 50% of the membership. Monthly dues ranged from GHC0.50 to GHC1.00 and FBO members supported each other at social events like weddings and funerals and contributed additionally towards these events. On average, members present ranked their groups at 6.5 with a range of 5.5 to 8 on a scale of 10.

FBO members said that the ABC has not been effective in linking farmers with external buyers; neither has it been effective in buying farmer produce. It has provided useful technical services such as land preparation and input supplies to farmers through the MOFA fertilizer subsidy/ block farming project. The ABC usually does not provide inputs from its own resources. They indicated that tractor services were provided at prevailing commercial rates, but believed that with FBO joint ownership members should receive a discount from prevailing rates. The farmers ranked the ABC low at 2.7 on a scale of 1 to 10. However, the leader ranked the ABC at 6.5.

The interviewed FBO leaders indicated that initial working relationships between the FBOs and the ABC were good but have since deteriorated. The main problem is lack of communication between the two parties caused primarily by an inactive BoD. The farmers never see the investor, because he works at the Ministry of Food and Agriculture in Accra, and seldom comes to Ejura. When he does come, no one sees him and he is consequently viewed as being inaccessible.

The interviewed FBO members and leader concluded that provision of tractor services is the major ABC benefit. They do not store maize at the ABC because they cannot gain immediate cash on delivery to the warehouse and do not have cash reserves to wait for improved market prices. Consequently, they still prefer to store grain at home and sell to market women or other local traders to meet current household cash requirements.

FINANCIAL AND OPERATING SUMMARY

The ABC has not yet achieved a consistently profitable operation. While the partial year 2012 saw considerable throughput at the ABC by members and non-members alike, the year ended with an operating loss of GHC 4,368 on revenue of GHC 6,091. This was followed by a slight 2013 profit of GHC 1,178 on revenue of GHC 36,615. In 2014, a substantial reduction in throughput resulted in a loss of GHC 12,337 on revenue of GHC 20,466. The cash required for the construction of the maize receiving area and drying pad, and the correction of the deficiencies in the equipment provided by MiDA created a further cash drain that was met by the ABC anchor investor from personal savings.

ABC throughput for 2012 and 2013 was respectively 384 MT and 372 MT, dropping to 38 MT in 2014. Maize drying accounted for all 2013 throughputs but only 21% of 2013 throughput with storage accounting for 41% and cleaning accounting for the remaining 38%. In contrast, no maize was dried in 2014 with drying reduced to 13 MT from 140 MT in 2013, and storage of 25 MT in 2014 reduced from 372 MT in 2013.

Breakeven volume calculated for 2013 was 383.2 MT based on total throughput of 373 MT and reflects the very low operating costs relative to fixed costs.

SYNERGY

There is no direct synergy and only limited indirect synergy between the Victory Feed ABC and other development programs carried out by donors and NGOs within the ABC impact area. The communities served by the ABC have benefited from MiDA interventions for public school renovation and a water

supply for a nearby community, but no other development projects have been carried out in the area in recent years

OPERATIONAL IMPACT

ABC impact on ABC members' lives has not been substantial beyond a limited amount of land preparation tractor services. FBO member fallout following the high input credit default rate problem greatly reduced the original number of associated FBO members. The ABC does not provide agricultural inputs, production planning or marketing services for its FBO members; it only provides informal referrals to those customers who store their products at the warehouse when it obtains sales leads. Consequently, FBO members prefer to store grain at home and sell to local market women or other traders to meet household cash needs. The ABC does not meet the original MiDA concept of providing postharvest handling services to FBO members. Postharvest services are provided to only three FBOs that have supply contracts with the World Food Program or occasional sales to poultry farmers, who require that their maize be cleaned and dried before delivery to these clients.

SUSTAINABILITY

The Victory Feed ABC is potentially sustainable as a commercial operation over the long term if it can create a stable demand for smallholder grain in a manner that creates incentives for FBO members to deliver their grain for cleaning, drying, and storage. Linking the ABC with larger maize buyers, such as poultry farmers, WFP, and other grain aggregators could stabilize ABC sales and provide a consistent market for FBO member's products.

SEED SHOP ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

The Seedshop Company of Accra, an agro-input supplier of seed, pesticide, fertilizer, and agricultural fumigation equipment is the major investor in the Seed Shop ABC. The company has operated since 1997. Seed Shop's proposed concept for operating an ABC embodied a holistic, value chain approach providing extensive support to smallholder farmers as grain producers to supply the ABC managed by the company and was accepted by MiDA.

MiDA transferred the facility and equipment to the Seed Shop ABC in May 2012 and started operating in August of that year with 20 FBOs with about 1,000 associated members. Its objective was to provide smallholder farmers with land preparation services, maize shelling, cleaning and mechanical drying at the ABC warehouse, maize warehousing and storage, and brokerage services for maize stocks stored at the warehouse. Due to limited availability of working capital, Seed Shop ABC was unable to engage in maize trading, but provides its FBO members with market linkage services to other buyers and charges a commission of about 4% of the sales value.

During the initial 2013 production season, the ABC provided agricultural inputs including hybrid maize seed and fertilizer to its associated FBO members under seasonal credit terms. With a default rate of 40%, the program was suspended the following season. With the high yield and low prices, a number of farmers stored maize in the ABC warehouse for a long period and the price charged by the warehouse was too low to be profitable (GHC .30 as recommended by MiDA). It has subsequently been increased to GHC 2.00.

In 2013 the ABC provided postharvest services to commercial maize seed producers including maize shelling, cleaning, drying, and maize seed treatment. However, it was unable to compete with a nearby large government-owned seed processing plant with lower operating costs. Operating without a required

cold room for seed storage the ABC was unable to keep the seed producers as customers and has since withdrawn from the seed processing business.

In 2014, the ABC initiated a trial input supply program with a nearby poultry company that buys maize for transforming into poultry feed. The poultry company serves as an “anchor firm” for the ABC by providing agricultural inputs on credit to its associated FBO members. After harvesting and processing, the poultry company takes delivery of the conditioned maize and pays the smallholders for the amount purchased, after deducting the cost of the agricultural inputs. The ABC coordinates the entire process. The loan recovery rate is acceptable and activity is highly promising. The ABC plans to expand the program during the next production season.

Initial problems at the time of MiDA facility and transfer include: a) the single tractor could not meet expected demand for land preparation services; b) lack of holding area for delivered maize created inefficient operations; c) diesel powered maize dryers were inefficient and were converted to electricity at owners expense; d) the hot-air blowers on the two MiDA supplied maize dryers did not have sufficient capacity to handle both units simultaneously; and, e) the supplied maize cleaning equipment was inadequate for cleaning requirements. Two additional maize dryers were purchased at ABC expense to expand drying capacity.

FBO MEMBER AND FARMER ASSESSMENT

FBO member average farm size is five hectares and FBO members benefited from six weeks of MiDA training and the starter pack received prior to ABC formation with maize yields increasing from 3 (120 kg) bags up to 10 bags. Starter packets were provided for one acre of maize. Capacity building training also improved FBO operations. Members are widely dispersed throughout the ABC catchment area causing difficulties in delivering grain to the ABC and for the ABC to provide services. Most FBOs were formed prior to the start of the MiDA program and members see their organization as being strong, providing a ranking of 9 on a scale of 1 to 10 with 10 as the highest. They ranked their FBO Union and the ABC at 2.

About 120 FBO members brought produce to the ABC for drying in 2013 but ABC provided tractor services were limited as the ABC had only one tractor. The low capacity maize sheller limits actual shelling to one mt per day (about the original targeted sales volume for one member) and consequently unable to process efficiently their grain. The ABC does not provide marketing services and farmers receive no inputs nor do they receive support in obtaining inputs or marketing services coordination support from the FBO Union.

Members indicated that they do not understand new ABC management working arrangements, as it has not been discussed with them.

FINANCIAL AND OPERATING SUMMARY

The ABC has not yet achieved a profitable level of operations. Its throughput has been low, and labor costs were initially high since it employed the number of personnel recommended by MiDA. Annual financial and operating statements were not available as no statements had been prepared since the ABC began operating.

FBO members make little use of FBO post-harvest services. In 2012, 110 mt of FBO member and 20 mt of non-member maize was processed. In 2013, 58 members brought 51 mt for processing supplemented by 100 mt from non-members. During the 2014 major season, 65 FBO members brought 35 MT for processing while non-members brought 50 mt. There was no demand for maize processing during either the 2013 minor season or the 2014 minor season, since the farmers planted only limited quantities of maize due to their concerns that rainfall would be insufficient or unreliable for maize production.

The ABC could not provide records of maize storage, although the manager reported that during 2014, between 650-700 (50 kg) bags (32 mt and 35 mt of maize were stored at the warehouse for two months, which provided revenue amounting to GHC 0.30 per bag per month.

Data was not provided to undertake a breakeven calculation

SYNERGY

USAID provided a matching grant amounting to US \$10,000 to the ABC parent company, Seedshop, to help construct a storage warehouse and point-of-sale for agricultural inputs adjacent to the ABC. This will have a positive effect on the ABC operations and should encourage business to use the ABC. In addition, a group of Swedish investors is looking at the operations of the ABCs as a possible investment opportunity.

OPERATIONAL IMPACT

The ABC has thus far had a very limited impact on the maize agro-industry in the Gomoa Abassa area, and on its associated FBO members. Fewer than ten percent of the FBO members use the facility for post-harvest services, and its throughput during 2014 was less than ten percent of its storage capacity. Since it no longer provides agricultural inputs on credit to its associated FBO members, its production support is limited to plowing for some of the members. The current operation varies considerably from the MiDA objectives. Non-payment of input supply credit provided to FBO members in 2013 created

severe cash flow problems for the company, from which it has not recovered, and resulted in a large decline in FBO member patronage. A further contributing factor affecting ABC status is deficiency of MiDA provided equipment that required additional ABC investment to overcome the associated problems and could not handle the MiDA targeted shelling and drying volumes.

SUSTAINABILITY

The ABC can be a viable business over the long term as there are few post-harvest storage and processing facilities in the Central Region that have the size and the capacity of the Seed Shop ABC. The ABC has reduced its staff and is maintaining tight cost control and the majority investors have shown their willingness to fund the shortfall in cash flow at the facility. The poultry company maize production and processing agreement now being developed has the potential to substantially increase ABC throughput and there is, in addition, a substantial maize demand from several large poultry and egg producers in the area that could be met by the ABC.

QUALITY AGRICULTURAL SERVICES ABC

The following discussion is a distillation of detailed field interview notes from ABC investor and management staff, and from FBO members and leaders. It provides a brief organizational and technical background of the organization from the FBO member leader and the ABC investor and management perspectives and summarizes the financial and operating situation, synergy with other MiDA components and with other donor and NGO support activities, and evaluation team conclusions on the impact, effectiveness, and sustainability of the ABC.

ABC BACKGROUND

Quality Agricultural Services, (QAS) Ltd was registered in 2009 with three investors, one of which is an agricultural consultant and owns a poultry company. MiDA awarded the contract in early 2012 and the ABC was associated with 20 FBOs with 984 associated members. It began limited operations in September of that year, at the outset of the minor harvest season. The ABC became fully operational at the onset of the following major harvest season in July and August of 2013. QAS Ltd buys and sells grain, engages in tree crop production, processes maize, fruit and legume crops, sells input supplies, and provides agricultural consulting services. Shortly after ABC organization in 2012 a conflict over ABC and the FBO Union rights and responsibilities emerged that has not yet been resolved. In addition, one of the FBO leaders was provided with 200 kg sacks of seed maize for which payment has not been received. The investor view is that FBO members thought that the ABC was a government organization and that all services and supplies would be provided free of charge. The ABC/FBO partnership consequently collapsed and there are no FBOs or members formally associated with the ABC. At the time of the evaluation visit, the dispute was not resolved and there were no communications between the two parties.

The ABC did not consider buying maize from FBO members as it is less costly to buy from other nearby producers. The poultry company that is owned by one of the investors uses all ABC maize purchased.

The ABC now operates as an independent private company and its strategy is to a) encourage external farmers to bring their maize to the ABC to be processed; b) encourage local market women to store their maize at the ABC, instead of holding it at their respective villages; c) increase the amount of maize being processed at the ABC for use by the three investment partners, and d) to obtain a bank loan to buy additional tractors in order to farm his own 300 hectare farm and process and store the product at the ABC.

Several problems were associated with MiDA transfer to QAS ABC: a) tractor registration documents were not provided by the seller and the ABC cannot legally drive the tractor on public roads; b) the diesel

fuel powered maize dryer was inefficient and the company covered the cost of switching to a more efficient propane gas power unit; c) the MiDA provided maize sheller had limited capacity and shelled only de-husked grain, and was replaced at company expense; and, d) a covered maize receiving area with concrete floor was not included in the MiDA provided facilities and limits grain handling efficiency.

FBO MEMBER AND LEADER ASSESSMENT

FBO members represent four Eastern Districts in the Eastern region with farm sizes ranging from five to 20 acres. However, at the time of the evaluation none worked with the ABC. Instead, the facility works with eight farmers that are located within a 10 km radius of the ABC. These farmers operate from two to five acres each, produce mainly maize and cassava, and are not organized into FBOs.

Members of the original 20 FBOs benefited from the received training with many doubling their yield increases. Normal yield prior to training were about 3 bags per acre; increases ranged from 8 to 15 bags per acre. As a result, they had been able to send their children to school and many were able to construct block houses. They benefited from work sharing on member farms but would like the FBOs to provide assistance in coordinating input supplies.

In 2013, 45 of the 1,000 FBO members sent their maize to the ABC for processing. They indicated that it was not shelled on time; it started to get moldy and they subsequently picked it up and brought it back to their farms. (The assessment team concluded that the delay was most likely caused by the low capacity sheller provided by MiDA (it could shell only one farmer's maize per day) and the poor efficiency of the diesel powered dryer. FBO members also indicated that the ABC does not provide market linkages services that they had expected nor does it buy farmer's product or provide inputs. This experience discouraged farmers from using the ABC services and they do not feel as if they are part owners of the ABC and communications between the FBO and the ABC have broken down. The MOFA had been asked to mediate but this had not yet taken place. The interviewed FBO leader confirmed that communications between the ABC and the FBOs is poor and that FBOs have had no input into ABC staff hiring or into prices charged for services provided.

The farmers now working with the ABC reported that they had been able to double the land areas cultivated since the ABC provided ploughing service and seeds.

FINANCIAL AND OPERATING SUMMARY

The on-going dispute between the ABC and the FBO Union has severely limited originally planned ABC smallholder service activities and throughput. These smallholders managed an estimated total of 1,000

acres. Maize shelling, drying, and cleaning volumes for 2012, 2013 and 2014 seasons respectively were 59 MT, 97 MT, and 165 MT respectively. Total revenues for this activity, over the three-year period, were only GHC 17,027. Grain storage capacity was greatly underutilized over the period at 1.5% in 2012, 8.6% in 2013, and 5.2% in 2014, respectively. Area ploughed in 2013 was 25.5 acres in 2013 but increased to 796.5 in 2014 with revenue of GHC 47,790. The amount of ploughing services provided to FBO members was not provided to the evaluation team so this impact is not measurable.

The ABC reported a slight profit amounting to GHC 9,434.00 in 2014 despite the very low throughput. Based on total throughput (tonnes processed plus tonnes stored) of 373 MT the calculated 2014 breakeven point is 350.25 MT. The low breakeven point reflects low ABC staff salaries and the absence of senior management salaries in the fixed cost totals. The ABC manager was not able to provide financial data for ABC operations for 2012 and 2013.

SYNERGY

Synergy between MiDA's investment in the QAS ABC and other donor or NGO programs was not observed. Moreover, the ABC has not obtained any benefit from other MiDA investments under the Agriculture Project, such as roads, irrigation schemes, or installation of electric power lines.

OPERATIONAL IMPACT

The impact of QAS ABC on its associated FBO members has been minimal, in light of their limited patronage of the facility, the amount of maize that it has processed and stored since it began operating, and the limited services that it has provided to smallholders. Other than providing a limited amount of land preparation for its members, the ABC has had no impact on the lives of its affiliated small-scale farmers. It does not meet the MiDA objectives as a postharvest handling facility for FBO members. Moreover, there has been no synergy with other MiDA, donor, and NGO support programs.

SUSTAINABILITY

Despite the limited throughput, the QAS ABC is considered to be a sustainable business activity that will likely continue for the foreseeable future by working with predominately non-FBO farmers providing tractor services, grain processing, storage, and handling services, and grain-trading and storage to meet grain needs of the primary ABC owners. These activities will likely generate sufficient income to keep the ABC operating, especially under its current low operating budget.

MiDA STAFF INTERVIEW SUMMARY

The evaluation team met with the former MiDA Chief Operating Officer and the current acting Chief Executive Officer to gain an understanding of Millennium Challenge objectives and outcomes in Ghana. The following discussion summarizes the views of these two interviews.

The first Ghana Millennium Challenge Compact starting in February 2007 and ending February 2012 was designed to improve smallholder grain (principally rice and maize) farmer commercial capabilities. In light of previous government program failures smallholders would be linked with Agribusiness Business Centers (ABCs) owned jointly by a private investor and smallholders through their Farmer Business Organizations (FBOs). The ABCs would create a market for smallholder grain and provide advice, training in good agricultural production technologies, record keeping, postharvest handling, and marketing services. Prior to program interventions, postharvest grain losses were high, and it was expected that farmer training, combined with ABC coordinated stable product demand, would reduce these losses and increase smallholder incomes. The operating model envisioned a partnership between smallholders and experienced private sector business investors including buyers of agricultural products and input supply firms. The commercialization of smallholder farmers would facilitate smallholders to: a) reduce post-harvest losses, b) add value to the grain produced, and 3) involve them in the process of commercial agriculture production and marketing. ABCs were expected to link producers to large-scale buyers including poultry feed millers, national breweries, WFP, etc. that required cleaned and often graded grain products. Significant sales to smallholder local buyers not requiring these postharvest services were not envisioned as targets for ABC procured grain.

ABCs were organized as limited liability companies representing a principal private sector investor and a Union of 20 FBOs that typically had 800 to 1,000 members. Private investors were required to provide working capital of GHC 50,000 (equivalent to US \$50,000 at the prevailing exchange rate at the time); one acre of land on which to construct ABC facilities, and vehicles including a small truck and motorcycles to be used by field staff to provide extension services. Smallholders were to provide one 85 kg bag of grain per person to be deposited at the warehouse as their equity, and used as smallholder working capital.

FBOs members were expected to deliver grain to the ABC for processing and storage prior to sale with the ABC charging competitive prices for services provided. MiDA did not proscribe the services to be provided leaving this to each ABC in order to meet smallholder needs and ABC market requirements. Possible services included soils analysis, extension services, input supplies on credit, agricultural extension, and postharvest handling and product marketing.

MiDA ensured that the private investors had their equity in place when the ABC was awarded, and ABC managers were tasked to ensure that the smallholders provided their equity as well. (In fact, very few farmers provided this equity contribution.) Using a general calculation, private investor owner equity was set at 70%, and FBO Union equity at 30%. The private investor appointed three BoD members with the FBO Union appointing two members. Company profits were to be distributed on a 70-30 split between the investor and the FBO Union. Individual members profit share was determined by the amount of grain deposited at the ABC. The FBO members were selected by MiDA's regional implementing partners in each location, based on assessments to the capabilities of the different FBOs. In some cases, FBOs were eliminated as a result of their poor loan repayment record. The investors were selected through a competitive tender process.

FBOs members were expected to deliver grain to ABCs for processing and storage prior to sale with the ABC charging competitive prices for services provided. MiDA did not proscribe the services to be provided leaving this to each ABC in order to meet smallholder needs and ABC market requirements. Possible services included soils analysis, extension services, input supplies on credit, agricultural extension, and postharvest handling and product marketing.

Private specialists, with some support from government specialists, provided FBO members training prior to ABC startup. Training topics included good agricultural production practices, farm record keeping, quality requirements, and production timing. After training completion, smallholders were provided with a starter pack of seed and fertilizer inputs sufficient for one acre of maize to jump-start their commercial grain production experience. It was expected that the ABCs would be operational during the 2010 harvest time and link with farmers to provide postharvest services and marketing support. However, delays in completing investor Conditions Precedent (CP) required for investor certification delayed ABC construction. Consequently, the ABCs completion and transferal to the new owners occurred too late to provide postharvest and marketing support with the initial smallholder "commercial" harvest. The delay considerably reduced ABC effectiveness and resulted in excessive smallholder expectations for the following season when ABC support became available.

Initially, 32 ABCs were planned. The number was later reduced to 16 and finally to only 10 centers. At Compact termination, the ABC program was to be handed over to the MOFA for continuing support and oversight.

SYNERGY

The nearest project to the ABC program concept was the first ADVANCE project that was funded by USAID. The impact of the government Buffer Stock Program (BSP) has had negative synergy since technicians within the organization were attempting to manage the market prices and the company has failed. The ADVANCE-II project that began near the end of the Compact is continuing, and was built on some of the ideas that underlie MiDA's ABC program. The World Food Program set up a big warehouse at the airport, and buys grain from some ABC farmers.

OPERATIONAL IMPACT

The results are mixed – some ABCs are operating well, and some not so well, under difficult circumstances. Some of the elements of the program are not performing, and this makes the entire program not work as it should. The training and starter pack program was successful, and shows that production must increase for storage to be required. Product consolidation is essential for efficient marketing. Small, individual buyers coming to a village to purchase small quantities is inherently inefficient. Constructing the ABC facilities was the most successful element of MiDA's intervention. It is also the easiest part to accomplish. The least successful element was instituting the management systems and processes to make the infrastructure function as it should. This takes considerable time, and is considerably harder to do. A contributing problem is that the credit program is not operating. Financing is needed for grain production. For a successful ABC intervention, there must be a boom in production. For example, the large Avnash grain mill near Tamale is struggling to buy rice for the factory. The ABC should be the link between large companies such as Avnash and the local communities where grain is produced.

SUSTAINABILITY

The ABCs are sustainable. The operators will eventually find a way to make them function as a viable business. The assets will not go to waste. As private businesses, the operators will figure out a way to obtain a return on the investment they made.

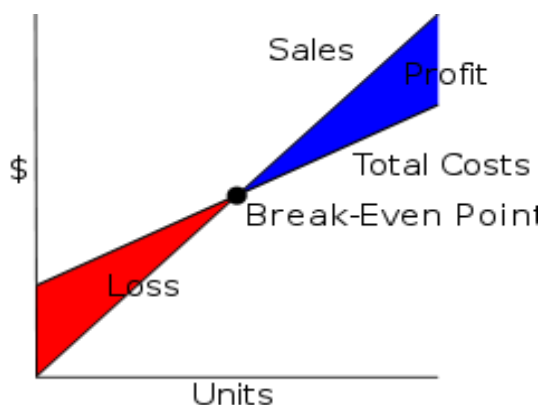
ANNEX 8. Breakeven Analysis

Breakeven Analysis Methodology

The Breakeven Analysis lets a firm determine the number of products that it must service or sell, monthly or annually, to cover its costs of doing business—that is, its breakeven point. The analysis calculates the breakeven point based on the firm’s fixed costs, its variable costs per unit of product that it services or sells, and its income (revenue) per unit of product that it services or sells.

The breakeven point represents the number of units that must be serviced or sold to cover the firm’s total costs (both fixed and variable). In cost accounting, the breakeven point is the point at which total cost and total revenue are equal: there is no net loss or gain, and the firm has "broken even." In short, all costs that need to be paid are paid by the firm but the profit is equal to zero. Breakeven is only possible if a firm’s per-unit revenue is higher than its variable costs per unit. If that is the case, then each unit of the product sold will generate some “contribution” toward covering fixed costs.

This is shown in graphical form by the following chart:



Agribusiness center (ABC), revenue can be generated from grain sales as well as by providing post-harvest services such as cleaning and drying maize, and by milling rice. The units of measure are kilograms, metric tons, or sometimes bags of grain that have a specified weight.

In cases where the ABCs engage in grain trading – that is, buying and selling grain, its revenue is derived from the amount of grain that is sold. In cases where the ABC obtains revenue from post-harvest services, its corresponding revenue is derived from the amount of grain that is conditioned by shelling, cleaning, drying, milling, and storing. The entire amount of grain that is sold and serviced by the ABC is defined as its “throughput”. For the purpose of the breakeven analysis, throughput is defined as the

cumulative amount of grain that is sold by the ABC, added to the amount conditioned by the ABC through shelling, cleaning, drying, milling, and storing.

Throughput = Grain sold + grain conditioned by shelling, cleaning, drying, milling, and storing.

ABCs also earn revenue by providing external services including land preparation and hauling by the tractor that was provided to the ABC. The BEP analysis excludes revenues and costs associated with these services because the key MiDA objectives defining ABC viability did not include them. While providing additional income, it is considered that these services are external to the primary postharvest handling activities of the agribusiness center.

The breakeven analysis then considers the relationships between a) the amount of the ABC operating company's fixed cost, or overhead expense; b) the variable cost per unit of throughput that is handled by the ABC; and c) the revenue per unit of throughput that is serviced and/or sold by the ABC.

The mathematical equation to determine the number of units that must be serviced or sold for the firm to break even is the following:

Breakeven units (kilograms) = Total fixed costs / (Revenue per kilogram of throughput - Variable cost per kilogram of throughput)

ANNEX 9. Reviewer Comment Tracker

Reviewer/ Organization	Page Number	Comment	Evaluator Response
Albert Kofi Nyarko / MiDA	3	Compact completion date is 15 February 2012	Text changed to reflect correct date (February 15 instead of Feb 12)
Albert Kofi Nyarko / MiDA	4	Grains storage capacity of the ABC: Suggest the 1,000 metric tons storage capacity of the ABCs be mentioned somewhere in the report, preferably in a section within ABCs background information.	Footnote added on page 4 to address comment
Albert Kofi Nyarko / MiDA	4	Number of FBOs and Farmers trained MiDA has exact numbers that may be referenced. Refer to page xiv (or 17 of 275 of soft copy) of the Compact Completion Report, "1,242 FBOs, comprising 66,930 smallholder farmers were trained..." Females represent about 48% of the trained smallholder farmers	Text referencing these numbers added
Albert Kofi Nyarko / MiDA	4	There is no MoC in Ghana. What we have in Ghana is the Department of Cooperatives under the Ministry of Employment and Labor Relations. Although FBOs operate like cooperatives, their developmental issues is the responsibility of the Ministry of Agriculture (MOFA), hence FBOs were organized by the Ministry of Food and Agriculture (MOFA). They were subsequently registered by the Department of Cooperatives for the purpose of participating in the ABCs. Remember to effect the change in the list of acronyms.	References to MOC in acronym list, page 4, and page 37 are deleted. Reviewer comments provided the needed detail to explain the role of the Department of Cooperatives. MOFA still remains the implementing agency and the MOC reference on page 37 has been changed to MOFA. There is no other reference to the MoC in the text.
Albert Kofi Nyarko / MiDA	11	ABC ownership list presented alphabetically by geographical region in Table 1. This does not appear to be the case. Consider revising	Table modified to alphabetize ABC names within region. Subsequent discussions follow this format.
Albert Kofi Nyarko / MiDA	12	"... remained strained at many of the FBOs in 2014" Consider revising last sentence in second paragraph	We have deleted this sentence, while maintaining the conclusion that many ABCs

Reviewer/ Organization	Page Number	Comment	Evaluator Response
			were unable to purchase grain on own account by project end.
Albert Kofi Nyarko / MiDA	15	Unavailability of ABC income statements, so ABC trading and service transactions managed through the PI in order to reduce FBO liability as ABC co-owner. Is this specific to Shekina ABC? If so the sentence should be qualified as such (e.g. "Although the ABC income statements ...")	Yes, this statement is specific to Shekina; text has been modified to reflect this.
Albert Kofi Nyarko / MiDA	17	ABC recovered by 2004, all unpaid accounts from the previous periods: Double check date; 2004 seems not correct. We suspect the correct year is 2014.	Correction was made; year changed from 2004 to 2014
Albert Kofi Nyarko / MiDA	34	FBO and non-FBO association with ABCs: Please double check– Is it FBO or non-FBO? FBO seems more appropriate in the sentence.	Corrected to say FBO
Albert Kofi Nyarko / MiDA	37	MoC - Same comment as item #4 above	Corrected. See response to item 4.