

Promoting Best Business Practices among Smallholder Farmers in Ghana: The Case of MiDA Training for FBOs in Hohoe District in the Volta Region

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Abstract

This study was carried out to assess the adoption of best business practices among farmers in the Hohoe district of the Volta Region. A random sampling technique was used for selecting the respondents for the study. The total sample size of 191 respondents was randomly selected from four Farmer Based Organizations (FBOs). Data was collected through a structured interview schedule and analyzed with descriptive statistics. The study showed that majority (57.1%) of respondents were males and farmers up to 45 years constituted (60.2%) of the sample size. The study also revealed that the mean bags per acre of maize for all FBOs produced by the respondents increased from 1.3 before the training to 10.0 after the training. The farmers therefore, increased yields by as much as 87% over and above what they realized before the start of the training. The respondents further increased their access to produce markets with linkages to institutional markets. The factors influencing increased yields and respondents' greater access to produce markets were also identified to be low. Non-adoption of improved agricultural technologies and best business practices accounted for the low productivity at the start of the training. To encourage smallholder farmers to benefit from 'agriculture as business', there is the need to equip them with the capacity to keep accurate records and patronize improved agro inputs to strengthen their businesses, improve their technical skills to enhance efficiency in their routine operations, assist them to maximise sales by facilitating their access to markets and providing them with infrastructural support.

Keywords: *Best business practices, Farmer based organizations, improved agricultural technologies, maize, MiDA*

Promotion des Meilleures Pratiques Commerciales Chez les Petits Exploitants du Ghana: Le cas de Quatre Organisations D'Agriculteurs dans la Municipalité de Hohoe dans la Région de Volta

Résumé

Cette étude a été réalisée pour évaluer l'adoption des meilleures pratiques commerciales par les agriculteurs du municipalité de Hohoe dans la région de la Volta. Une technique d'échantillonnage aléatoire a été utilisée pour sélectionner les personnes interrogées à l'étude. La taille totale de l'échantillon de 191 de personnes interrogées ont été sélectionnée de manière aléatoire parmi quatre Organisations d'Agriculteurs (FBO en anglais). Les données ont été recueillies au moyen d'un programme d'entretiens structuré et analysées à l'aide de statistiques

descriptives. L'étude a montré que la majorité (57,1%) des personnes interrogées étaient des hommes et que les agriculteurs de moins de 45 ans constituaient (60,2%) de la taille de l'échantillon. L'étude a également révélé que la moyenne des sacs par acre de maïs pour tous les FBO produits par les personnes interrogées était passée de 1,3 avant la formation à 10,0 après la formation. Les agriculteurs ont donc augmenté les rendements de près de 87% par rapport à ce qu'ils avaient réalisé avant le début de la formation. Les personnes interrogées ont encore élargi leur accès aux marchés de produits liés aux marchés institutionnels. Les facteurs influant sur l'augmentation des rendements et l'accès accru des personnes interrogées aux marchés des produits ont également été jugés faibles. La non-adoption de technologies agricoles améliorées et les meilleures pratiques commerciales expliquent la faible productivité au début de la formation. Pour encourager les petits exploitants à profiter de «l'agriculture comme une activité commerciale», il est nécessaire de leur donner la capacité de tenir des registres précis et de conserver des intrants agricoles améliorés pour renforcer leurs activités, améliorer leurs compétences techniques et améliorer l'efficacité de leurs opérations courantes, de maximiser les ventes en facilitant leur accès aux marchés et en leur fournissant un soutien en matière d'infrastructure.

Mots-clés: meilleures pratiques commerciales, organisations d'agriculteurs, technologies agricoles améliorées, maïs, MiDA

Introduction

Agriculture is the main economic activity of majority of the Ghanaian population as it contributes more than 25% Gross Domestic Product (GDP) and employs about 55% of Ghana's labour force (<https://www.stanbicbank.com.gh>). However, about 80% of Ghana's total agricultural output is produced by smallholder families such as farmers, processors and traders. Most of the smallholder farmers operate as individuals and therefore lose the opportunities that groups offer such as training and information acquisition, access to loans and inputs as well as efficient extension services.

The smallholder's agricultural production is mainly subsistence in nature rather than a business enterprise (GMCCPD, 2007). Again, poverty levels are high in smallholder communities thereby adversely affecting livelihoods in such communities. Smallholder farmers supply a large share of global agricultural output and are among the poorest and most food-insecured people in the world (Fan *et al.*, 2013). The declining yield of

maize on per acre basis was a major problem not only for maize farmers but for consumers and the government in general. This situation needed a solution. The government of Ghana's stated vision (through the Ministry of Food and Agriculture) is a “modernized agriculture culminating in a structurally transformed economy and evident in food security, employment opportunities and reduced poverty” (FAO, 2015).

The government of Ghana through the Millennium Development Authority (MiDA) therefore organized series of training for smallholder farmers who had constituted themselves into FBOs in three intervention zones comprising 30 districts made up of 5 in the northern region (Northern Agricultural Zone), 9 in the Central Afram Basin (Afram Basin Zone) and 16 in the southern horticultural belt (Southern Horticultural Zone). In these intervention zones, poverty rates are generally above 40% (GMCCPD, 2007).

The overall objective of the MiDA training was to build the capacity of the FBOs to enable them pursue agriculture as a business, and adopt improved agricultural technologies to enhance their productivity and ultimately reduce poverty among the members.

MiDA engaged the services of Training Service Providers including the Council for Scientific and Industrial Research-Crops Research Institute (CSIR-CRI) to train the smallholder farmers. CSIR-CRI provided such training to FBOs in the Hohoe district of the Volta Region (part of the Southern Horticultural Zone). The training programme, known as the Commercial Development of Farmer Based Organizations (CDFO), aimed at addressing some of the key constraints of smallholders in the agriculture sector of Ghana. These included inadequate knowledge and application of new farming technologies and business methods, poor access to farm inputs, poor access to credit, absence of requisite agricultural infrastructure and absence of ready markets for farm produce. Addressing these constraints would ensure increased crop productivity, higher incomes and reduction in rural poverty. The training comprised six weeks of intensive business capacity building followed by three weeks of technical training and three weeks of 'hand-holding' activities that linked farmers to markets. In order to promote business attitudes among the farmers, the training provided modern commercial agricultural methods and business advice to the farmers. The training also emphasized the concept of farming as a business and profit-making venture, and introduced FBOs to the processes of writing Business Plans, an essential tool for successful business practice. This intervention helped to deepen the farmers' understanding of the value-chain approach to a variety of farm produce and enhanced the management of their farming businesses, the handling of produce and the

exploration of market-linkage opportunities. As an example, the training encouraged the farmers to always access markets before production to ensure speedy sale of their produce. The Capacity Building modules prepared participants to take control of their associations, to help them prepare farm records, and enter into proper contract agreements with prospective customers among others, while the technical training strengthened their knowledge and skills in good agricultural practices (Osei *et al.*, 2013). Respondents were heterogeneous as far as the crops produced were concerned. However, maize production was common among all of them. Therefore at the end of training, the farmers were supplied with free inputs known as "starter pack" to cultivate one acre of maize comprising 9kg of Obatanpa seed maize, 2 bags of NPK 15:15:15, 1 bag of sulphate of ammonia fertilizer, a pair of Wellington boots and thirty Ghana cedis. Maize is an important cereal staple and a food security crop in Ghana.

The objective of the study therefore, was to assess the adoption of best business practices and improved agricultural technologies among the respondent farmers in the study area.

Methodology

The study was conducted in 2010 in three communities in the Hohoe district of the Volta Region. The Hohoe district is located within 0° 15' E and 0° 45' E and 6° 45' N and 7° 15' N. The district covers an area of 1,172 sq km, which is 5.6% of the regional size and represents 0.5% of the national land area. The communities were Wli Dzogbega, Ve Koloenu and Alavanyo Wudidi where Hohoe Server Youth Farmers Association (HSYFA) / Word Miracle Church International Farming Group (WMCIFG), Ando Kpaveme Food Crops Farmers Association (AKFCFA) and Dekaworwor Cooperative Farmers

Association (DCFA) were located, respectively. Members of the four farmer associations were selected through a simple random sampling technique. In this study, the target population (191) was the same as the sample which included all the farmers identified with the selected FBOs as follows: AKFCFA-48, WMCIFG-46, HSYFA-45 and DCFA-52 members. At the end of the training, the farmers were supplied with free inputs known as “starter pack” to cultivate one acre of maize comprising 9 kg of Obatanpa seed maize (an improved variety developed by CSIR-CRI), 2 bags of NPK 15:15:15, 1 bag of sulphate of ammonia fertilizer, a pair of Wellington boots and thirty Ghana cedis (Gh¢30.00) for land preparation.

This study employed two main instruments to collect primary data from each of the four FBOs. First, a structured questionnaire was designed to collect quantitative information from the respondents. The open and closed ended questionnaires were pre-tested, revised and administered to the population in the four FBOs. Data were collected on the demographic characteristics of the respondents, the extent to which respondents adopted the best business methods and improved agricultural technologies before and after the training as well as yield and sales volumes of maize. Collection of the quantitative data was followed by focus group discussions to collect qualitative data. The focus group discussions were held during meeting days. The quantitative data were analysed using descriptive statistics such as frequency counts and percentages which have been presented in tables. For qualitative data analysis, interview and discussion scripts were transcribed and cross checked at the end of every meeting and presented in quotes. Adoption rate of technologies by the FBOs was arrived at by summing up the percent adoption of the 10 technologies deployed and dividing by the number of the technologies.

Results and discussion

Demographic characteristics of selected FBOs

Demographic characteristics of the sampled FBOs are summarized in Table 1. These characteristics play important role in understanding the differences among FBOs and hence explaining their behaviour regarding adoption of best business practices and improved agricultural technologies.

The four FBOs studied were Ando Kpaveme Food Crops Farmers Association (AKFCFA), Word Miracle Church International Farming Group (WMCIFG), Hohoe Server Youth Farmers Association (HSYFA) and Dekaworwor Cooperative Farmers Association (DCFA). Their corresponding characteristics have been elucidated.

Majority of farmers in the FBOs, 57.1% were males while 42.9% were females (Table 1). This result is in agreement with the findings by Osei *et al.*, 2013 and Akomaning *et al.*, 2017 who observed that majority of farmers in FBOs studied in Ghana are males. However, the contribution of the women in the FBOs cannot be overlooked due to the fact that women are meticulous in activities they perform (FANRPAN, 2012). Also, the role of women in agriculture has been significant (FAO, 2011). The support they give their spouses go a long way in sustaining the rural food production.

Farmers up to 45 years constituted 60.2% of the respondents. This represents significant youthful respondents, which is insurance to sustainable agriculture. Studies have shown that the youth are more likely to adopt new technologies and have greater interest in higher value products and market linkages (IFPRI, 2013). D'Souza *et al.* (1993) observed that age is negatively associated with adoption and younger farmers are more likely to adopt new technologies and/or are likely to

Table 1. Demographic Characteristics of respondents

Variables	AKFCFA 48		WMCIFG 46		HSYFA 45		DCFA 52		TOTAL	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Sex										
M	26	54.2	20	43.5	35	77.8	28	53.8	109	57.1
F	22	45.8	26	56.5	10	22.2	24	46.2	82	42.9
Age (Years)										
<30	8	16.7	13	28.3	3	6.7	10	19.3	34	17.8
31-45	18	37.5	21	45.7	23	51.1	19	36.5	81	42.4
46-60	18	37.5	12	26.0	14	31.1	19	36.5	63	33.0
>60	4	8.3	0	0	5	11.1	7,7	13	6.8	-
Educational Level										
None	61	2.5	10	21.7	7	15.6	11	21.2	34	17.8
MSLC	20	41.7	20	43.5	17	37.8	21	40.4	78	40.8
JHS	12	25.0	11	23.9	12	26.7	11	21.2	46	24.1
SHS	6	12.5	4	8.7	6	13.3	7	13.5	23	12.0
Tertiary	4	8.3	1	2.2	3	6.6	2	3.7	10	5.2
Farming Experience (Years)										
<10	9		7	15.3	9	20.0	4	7.7	29	15.2
11-20	15		21	45.6	11	24.4	21	40.4	68	35.6
21-30	16		7	15.3	17	37.8	15	28.8	55	28.8
31-40	4		9	19.5	4	8.9	7	13.5	24	12.6
>40	4		2	4.3	4	8.9	5	9.6	15	7.9

AKFCFA - Ando Kpaveme Food Crops Farmers Association; WMCIFG - Word Miracle Church International Farming Group; HSYFA - Hohoe Server Youth Farmers Association; DCFA - Dekaworwor Cooperative Farmers Association

M = Male; F = Female; MSLC = Middle School Leaving Certificate; JHS = Junior High School; SHS = Senior High School.

be early adopters". This situation augurs well for Ghana's agriculture.

The level of education in the study area was very low. Approximately 5% of the respondents had tertiary education, about 18% had no formal education and

approximately 41% had completed elementary education. The very low educational standard could account for lack of adoption of best business practices and improved agricultural technologies before the MiDA training. Education is positively and significantly associated with adoption (D'Souza *et al.*, 1993). Almost half of the

respondents (49.3%) had been in the farming business for more than 20 years. Farmers in the Hohoe district could therefore, be described as experienced. However, people with experience and very low educational background rarely try innovations. Having been in the business for long would give the farmers a false sense of satisfaction which could impact negatively on technology adoption (Osei *et al.*, 2013).

Adoption of improved agricultural technologies before MiDA training

The FBOs had been introduced to improved agricultural technologies on maize production by Agricultural Extension Agents of the Ministry of Food and Agriculture, before the MiDA training. The technologies included improved varieties, recommended seed rate, seed treatment before sowing, timely sowing of seeds, recommended spacing row planting, fertilizer application, disease and pest management, timely harvesting and postharvest handling (Osei *et al.*, 2013). However, less than 26% of the improved agricultural technologies had been

adopted by the FBOs before the training (Table 2).

In view of the low adoption of improved agricultural technologies by the FBO's before the training programme, farmers realized uneconomic returns from their maize cultivation as shown in Table 3. The entire 48 farmers in Ando Kpaveme Food Crops Farmers Association, produced 62.4 bags an average of 1.3 bags/acre. The 49 member Word Miracle Church International Farming Group produced even lower, 1.2 bags/acre. Similarly, Hohoe Server Youth Farmers Association produced 58.5 bags amongst the 45 members representing 1.3 bags/acre. Finally, Dekaworwor Cooperative Farmers Association produced 1.4 bags/acre (Table 3). This meant that the four FBOs recorded a very low average yield of 1.3 bags per acre. Indeed, non-adoption of improved agricultural technologies is a recipe for lower productivity.

Table 2. Improved agricultural technologies adoption by the four FBOs before training

Improved Agricultural technology	Awareness Before Training		Application Before Training		Percent Adoption
	Yes	No	Yes	No	
Improved varieties	191	0	14	177	7.3
Seed rate	7	184	7	184	3.6
Seed treatment before sowing	188	3	10	181	5.2
Timely sowing of seeds	191	0	191	0	100
Row planting	191	0	70	121	36.6
Recommended spacing	9	182	9	182	4.7
Fertilizer application	191	0	65	126	34.0
Disease and pest management	191	0	108	83	56.5
Timely harvesting	7	184	7	184	3.6
Post-harvest handling	191	0	15	176	7.8

Yield enhancement through the application of improved agricultural technologies.

The improvement of farmers' knowledge through instructions on improved agricultural practices after the MiDA training coupled with the provision of “starter pack” for an acre of maize cultivation, resulted in about ten-fold increase in maize yields for the four FBOs (Table 5). It is instructive to note that farmers increased yields by as much as 87% over and above what they realized before the start of the training (Table 3).

Adoption of best business practices prior to training

The MiDA business capacity training modules identified certain activities as being crucial to best business practices which were modified to fit the purpose of training. These included profit-oriented farming, preparation of farm records, group purchases and sales, adherence to market standards, linkages with markets, use of appropriate farm inputs, linkages with value chain actors, preparation of business plans, signing of buyers agreements and accessing market information (Table 6).

Table 3. Mean quantities of maize produced/acre by the FBOs before training

Name of FBO	No of Farmers in FBO	Total No of Maize Bags Produced by FBO	Mean Bags Produced per Acre by FBO
Ando Kpaveme Crops Farmers Association	48	62.4	1.3
Word Miracle Church International Farming Group	49	58.8	1.2
Hohoe Server Youth Farmers Association	45	58.5	1.3
Dekaworwor Cooperative Farmers Association	52	72.8	1.4

Table 4. Improved agricultural technologies adoption by the four FBOs after training

Improved Agricultural technology	Awareness Before Training		Adoption After Training		Percent Adoption
	Yes	No	Yes	No	
Improved varieties	191	1	191	0	100
Seed rate	7	184	191	0	100
Seed treatment before sowing	188	3	191	0	100
Timely sowing of seeds	191	0	191	0	100
Row planting	191	0	191	0	100
Recommended spacing	191	182	191	0	100
Fertilizer application	9	0	191	0	100
Disease and pest management	191	0	191	0	100
Timely harvesting	191	184	191	0	100
Post-harvest handling	7	0	191	0	100

Table 5. Mean quantities of maize produced/acre by the FBOs after training

Name of FBO	No of Farmers in FBO	Total No of Maize Bags Produced by FBO	Mean Bags Produced per Acre by FBO
Ando Kpaveme Crops Farmers Association	48	480	10
Word Miracle Church International Farming Group	49	441	9
Hohoe Server Youth Farmers Association	45	450	10
Dekaworwor Cooperative Farmers Association	52	572	11

All the respondents were not aware of the need for them to consider farming as a profit oriented activity, engagement in group purchases and sales, adherence to market standards, preparation of business plans to attract bank credit and signing of buyer agreements. In this connection, only 7.8 % and 5.2 % of respondents had linkages with value chain actors and access to market information, respectively. Failure to adhere to these best business practices could impact negatively on activities of the farmers as they are not able to produce high quality produce that meets local (urban) and international markets standards (Fischer and Qaim, 2012). The situation becomes worse when farmers continue to use inappropriate farming methods. Therefore, there was the need to update the skills and knowledge of the respondents to adopt best business practices in addition to improved agricultural practices to enhance their productivity and livelihoods (IFPRI, 2013). Approximately, 96% of farmers were aware of the importance of farm records before the training but did not prepare any. Therefore, farmers could not tell whether they were making profits or not from their farming ventures. Similarly, all farmers (100%) did not practice group purchases and sales and were therefore very vulnerable in the markets. Approximately, 93% of respondents did not consider farming as profit-making venture which explains why their productivity levels were very low before

the start of the MiDA training programme (Table 3).

After the MiDA training, respondents adopted all the ten best business practices taught them. In particular, all respondents (100%) accepted the fact that farming is a business which must yield profits. They all (100%) agreed that to increase productivity, the required agro inputs must be applied and to determine the financial position of the farming enterprise, proper records must be kept (Table 7). This could be as a result of the knowledge and skills imparted to the respondents by the facilitators as well as the desire of the respondents to learn and improve their productivity and standards of living.

The farmers again showed commitment to the training because of their expectations to gain access to produce markets, and receive credit from the banks after preparation of credible business plans (Chirwa and Matita, 2012). The farmers realized the benefits they stood to gain from the training and made the best of it.

Through the 'handholding' activities of the training, the FBOs were linked to some of the recognized institutions and wholesalers who were willing to buy the FBOs produce in bulk at negotiated prices. This provided a source of ready markets for the FBOs produce. Prominent amongst the identified buyer institutions were St Francis Training College,

Table 6. Best business practices adopted by the four FBOs before training

Best business Practices	Awareness Before Training		Application Before Training		Percent Adoption
	Yes	No	Yes	No	
Profit oriented farming	0	191	0	191	0
Preparation of farm records	183	8	8	183	142
Group purchases and sales	0	191	0	191	0
Adherence to market standards	0	191	0	191	0
Linkages with markets	20	171	20	171	10.5
Use of farm inputs	46	145	30	161	15.7
Linkages with value chain actors	20	171	15	176	7.8
Preparation of business plans	0	191	0	191	0
Signing of buyers agreements	0	191	0	191	0
Accessing market Information	15	176	10	181	5.2

Table 7. Best business practices adopted by the four FBOs after training

Best business Practices	Awareness Before Training		Application Before Training		Percent Adoption
	Yes	No	Yes	No	
Profit oriented farming	0	191	191	0	100
Preparation of farm records	183	8	191	0	100
Group purchases and sales	0	191	191	0	100
Adherence to market standards	0	191	191	0	100
Linkages with markets	20	171	191	0	100
Use of farm inputs	46	145	191	0	100
Linkages with value chain actors	20	171	191	0	100
Preparation of business plans	0	191	191	0	100
Signing of buyers agreements	0	191	191	0	100
Accessing market Information	15	176	191	0	100

Hohoe; Hohoe Government Hospital and Finatrade Ghana, a non-governmental organization based in Accra (Table 8).

Assessment of respondents' perception of MiDA training

The respondents were asked about their perception of the MiDA training. These assessments were done during the focus group

discussions that characterized the study. Below are some positive comments about the training “We are more than equipped to perform our farming businesses better; “The training has been beneficial because our skills and knowledge in agriculture have been enhanced.” “Now, we know who to talk to in order to sell our produce.” “The handholding efforts have opened market opportunities for

Table 8. FBOs linkages to markets

Name of FBO	Prospective markets/buyers
Ando Kpaveme Crops Farmers Association	<ol style="list-style-type: none"> 1. Local community market (Ve Koloenu) 2. Hohoe main market 3. Wholesalers 4. St. Francis Training College, Hohoe 5. Hohoe Government Hospital 6. Finatrade Ghana
Word Miracle Church International Farming Group	<ol style="list-style-type: none"> 1. Local community market (Wli Dzogbega) 2. Hohoe main market 3. Wholesalers 4. St. Francis Training College, Hohoe 5. Hohoe Government Hospital 6. Finatrade Ghana
Hohoe Server Youth Farmers Association	<ol style="list-style-type: none"> 1. Local community market (Wli Dzogbega) 2. Hohoe main market 3. Wholesalers 4. St. Francis Training College, Hohoe 5. Hohoe Government Hospital 6. Finatrade Ghana
Dekaworwor Cooperative Farmers Association	<ol style="list-style-type: none"> 1. Local community market (Alavanyo Wudidi) 2. Hohoe main market 3. Wholesalers 4. St. Francis Training College, Hohoe 5. Hohoe Government Hospital 6. Finatrade Ghana

us.” We are now aware of what we can do as a group to improve our productivity going into the future.”

However, the positive comments were interspersed with negative remarks as well. The major negative comment was “Though the training was beneficial, the training period of 9 weeks was too long. This sometimes rendered the training uninteresting.”

Conclusion

Smallholder agriculture in Ghana is characterized by its subsistence nature rather

than a business with profit orientation. Farmers are therefore not benefitting from the gains 'agriculture as business' potentially has to offer. This situation impacts negatively on the farmers' productivity and standards of living. There is the need to equip smallholder farmers with the capacity to strengthen their businesses, improve their technical skills to enhance their efficiency in their routine operations, assist smallholder farmers to maximise sales by facilitating their access to local, regional and international markets and providing smallholder farmers with infrastructural support. This will serve as an

incentive for the youth to go into farming and help reduce poverty in rural communities, and curb rural-urban migration.

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