

Research Application Summary

**Evaluation of the Food Diversification Support Project (FoDiS) project in Chongwe District, Zambia and the need for well-trained agriculturalists and rural farmers**

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**Abstract**

This paper reports on an evaluation of a project titled Food Diversification Support Project (FoDiS) under the Ministry of Agriculture whose objective was to improve food security of farming communities in drought prone areas of Zambia through promotion of non-maize food crops such as roots and tubers, legumes and traditional cereals. A research survey was done in Chongwe to assess the impact of the project on the targeted farmers. The results revealed that the project had helped the farmers increase their food security by introducing drought tolerant crops. The project also trained farmers in utilization and preservation of food and facilitated the diversification of crops and increased income. The evaluation recommended that (a) there should be emphasis on training students in monitoring and evaluation, (b) both the farmer and the students need to have at least basic entrepreneurial skills with emphasis on value addition of the end product, and (c) there is need for students to have the necessary indigenous knowledge to adapt their academic training with real life situations and have a knowledge of the traditions and values of the places they will be working in so that they are more relevant to the farmers.

Key words: Entrepreneurship skills, drought, extension services, indigenous knowledge, Zambia

**Résumé**

Ce document fait état d'évaluation d'un projet intitulé Projet d'Appui à la Diversification Alimentaire du Ministère de l'agriculture, dont l'objectif était d'améliorer la sécurité alimentaire des communautés agricoles des zones sèches de la Zambie, par la promotion des tubercules, légumineuses et céréales traditionnelles. Une enquête a été conduite à Chongwe pour évaluer l'impact du dit projet sur des agriculteurs ciblés. Les résultats ont révélé que le projet avait aidé les agriculteurs à accroître leur sécurité alimentaire en introduisant des cultures résistantes à la sécheresse. Le projet a également formé les agriculteurs à l'utilisation et la préservation des aliments tout en facilitant la diversification des cultures et l'augmentation des revenus. L'évaluation a recommandé que (a) l'accent soit mis sur la formation des étudiants au suivi et à l'évaluation, (b) tant l'agriculteur que les étudiants doivent avoir au moins des compétences entrepreneuriales de base, mettant l'accent sur l'ajout de la valeur au produit final; (c) Il est nécessaire que les étudiants disposent des connaissances indigènes nécessaires pour adapter leur formation académique

à des situations réelles et sur les traditions et valeurs des localités où ils travailleront afin qu'ils soient plus pertinents pour les agriculteurs

Mots clés: Compétences en entrepreneuriat, sécheresse, services de vulgarisation, connaissances indigènes, Zambie

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### **Background/rationale**

The population of Chongwe in Zambia is generally food insecure due to poor harvests and high post-harvest losses. Poor harvests are a result of droughts, poor soils, crop pests and diseases. Lack of crop diversification and lack of inputs exacerbates the situation. Post-harvest losses on the other hand occur because of inadequate preservation techniques of agricultural produce (CSO, 1990; MAFF, 1997). The above mentioned problems prompted the Government of Zambia through the Ministry of Agriculture and Livestock in collaboration with Japan International Cooperation Agency (JICA) to come up with a project aimed at tackling the problems faced by farmers in Chongwe. The project was called the Food Crop Diversification Support Project (FoDiS). The overall objective of FoDiS project was to improve food security of farming communities in drought prone areas of Zambia through the promotion of non-maize food crops such as roots and tubers, legumes and traditional cereals. The project targeted the drought prone areas of Zambia such as Sinazongwe, Shangombo, Gwembe, Siavonga, Luangwa, Nyimba, Petauke, Mambwe and Chongwe Districts (Ndiyoi *et al.*, 2007; FoDis, 2008).

This research sought to evaluate the Food Crop Diversification Support Project (FoDiS) whose main objective was to improve food security of farming communities in drought prone areas of Zambia through promotion of non-maize food crops such as roots and tubers, legumes and traditional cereals. Improved varieties of sweet potatoes and cassava crops were promoted by the project because of various advantages of growing them. Many farmers in the rural areas of Zambia have been practicing mono cropping of maize for many years, resulting in degradation of soils and poor yields (Nelson, 2006). The yields further drop in times of droughts, increasing food insecurity and poverty.

This situation has attracted several projects to help rural farmers attain food security and reduce poverty. One such project is the FoDiS project which is being evaluated in this particular study. The catchment areas for this project included Sinazongwe, Sesheke, Shangombo, Gwembe, Siavonga, Luangwa, Nyimba, Petauke, Mambwe and Chongwe. The crops that were introduced through FoDiS Project are drought tolerant and have a low demand for soil nutrients. They do not require external inputs such as fertilizers and are best suited for the resource-poor farmers who usually do not have enough money to spend on inputs. These crops included cassava, sweet potato, sorghum, millet, beans and cowpeas. These crops can be used to help resource-poor farmers become food secure and generate some income for them without spending much money on crop cultivation.

In recent years, project approaches to agricultural development have become popular and many aid donors are using projects to help the poor. This is because projects allow

organizations to embark on various tasks simultaneously. However, projects need to be evaluated to ensure that they achieve their intended purposes and impacts, avoid unnecessary loss of resources and ensure better planning of future projects. Lessons learnt from one evaluation can be used to improve on the delivery of future projects (Gray and Larson, 2008). Hence, the main objective of this research was to assess the effectiveness and impact of the FoDiS project on the targeted farmers. Specifically, the evaluation aimed to (i) determine whether or not there was an improvement in the food security of intended farmers, (ii) assess whether targeted farmers diversified their crops by including drought tolerant ones, and (iii) assess whether the Project resulted in economic gains in favour of the intended farmers.

### **Methodologies and approaches**

The research was investigative in nature and its methodology was in three parts. The desk research assessed the project on the objective oriented project planning technique and field survey. The desk research involved studying and analyzing available literature pertaining to the project ranging from books, published articles, to unpublished organizational reports. The desk research helped with preliminary decisions regarding the topic of research, design of the research method and the implementation of the research project.

In order to appreciate how the project was formulated, it was subjected to the Objective Oriented Project Planning (OOPP) technique. This technique was used to aid in the understanding of the processes of the project to plan the evaluation better. The design was studied because it influences the achievement of project objectives. The OOPP technique may be used for analysis, assessment, follow up and evaluation of projects. What the technique is used for depends on the role of the users and their needs in a project (Ortengren, 2004).

The survey included observational research and primary data collection using structured questionnaires. Observational research as the name suggests involved looking at the farmers' livelihoods in terms of types of houses they live in and how they look generally regarding their health. The two points were considered to have an indication on their income and nutrition status, respectively. Adcock *et al.* (1994) recommends that observational research should be made a routine part of all research involving the use of primary data.

Structured questionnaires were used to avoid or minimize interviewer bias in this research. Three types of questionnaires were developed using the information from the farmer problems of the Chongwe area. The three types of questionnaires included an individual farmers' questionnaire, a panel questionnaire for other groups of farmers to confirm the responses from the individual farmers and a key informant questionnaire. The population identified for this research included the FoDiS Project targeted farmers and those around them and key informants who are individuals in some form of authorities who live in the same communities with the farmers. These included a village secretary, five agricultural extension workers in contact with farmers and the Chairperson of the Kanakantapa Women Association.

The individual farmers randomly chosen were 53 in number. Five (5) panels, each consisting of seven farmers were also interviewed as well as a total of seven (07) key informants. The total number of individuals interviewed was ninety five (95). The questionnaires were pre-tested by administering them to one panel of five farmers, five individual farmers and one key informant who was an agricultural research officer. All the individuals involved in the questionnaire pretest were in Chilanga where the project was not being administered. Amendments to the questionnaires were made based on their responses. The pretest revealed that the questionnaires could be administered in about thirty (30) minutes.

Statistical package for Social Sciences (SPSS) was used to analyse data collected from the individual farmers. Descriptive statistics were used to draw conclusions. The panels and key informant data were analyzed manually because they were few in number, five panels of farmers consisting of seven people each and seven key informants in total.

**Emerging issues/findings and lessons.** The main limitation of the research was the difficulty in actually getting to the farmers. Most of them thought the interviews were wasting their time considering the research was carried out in the farming season. This limitation was more evident when the farmers were being placed in panels because they had to wait until a total of seven individuals had arrived for the interviews to start.

Of the 53 interviewed individual farmers, 41 were female representing 77.4% and 12 were male (22.6%). This was also true for the farmer panels interviewed. This was similar to the observed character of practicing farming in the rural areas which was largely done by women.

All the five panels agreed that even though they received enough rain for their agricultural practices they found it hard to access inputs. They found inputs to be very costly and they had no financial credit facilities. The panels also stated that they all used hoes only for farming and ploughing to prepare land for planting and crop husbandry.

According to the panels of farmers interviewed, the following were the main farming problems: crop weeds, lack of farming implements, lack of market especially for crops such as cassava and sorghum (considering that the government was paying more attention only to buying maize) and crop damage by animals (both wild and domestic animal). One panel of farmers had their crops destroyed by livestock while the remaining four panels had their crops destroyed by wild animals.

Three of the interviewed panels representing 60% stated that the FoDiS Project had made it easier for them to access farming inputs especially seed. However, two panels said the FoDiS did not make it easier for them to access farming inputs. The panels that stated that the project made it easier for them to access inputs indicated that the inputs in question were cassava seed (cuttings), sweet potato (vines) and sorghum seed. The panels all agreed that the Project had helped them diversify their crops by providing them with the seeds of the different drought tolerant crops that were promoted. Three of the panels also stated that

they had learnt to preserve their farm produce as a result of the Project. These represented 60% of the individual panel members. The farmers stated that they had learnt to preserve crops such as maize, cassava, sorghum and sweet potato. Among the panels that stated they had learnt to preserve their farm produce, one panel said they had learnt to preserve maize and cassava, another panel had learnt to preserve sorghum and sweet potatoes and the last panel had learnt to preserve only maize.

The general farming problems in Chongwe area according to the key informants were insufficient land, lack of inputs, lack of credit facilities, poor road network, low soil fertility, pest and diseases, lack of training, poor farming methods, late harvesting by some farmers, poor storage facilities, failure of government to pay farmers in good time when they buy their maize, inadequate number of agricultural extension officers and lack of market for the crops.

The key informants suggested that in order to improve the project delivery, the FoDiS Project administrators should increase their project monitoring and evaluation activities, avail more operational funds to the officers in the extension services, increase on the amounts of inputs that were being offered to the farmers, increase the number of drought tolerant crops being given to the farmers, offer more training opportunities to the farmers especially regarding entrepreneurship, and link the farmers to crop markets. Also, FoDiS should provide farmers with information on HIV/AIDS awareness and prevention, which was prevalent in the Chongwe area. HIV/AIDS has devastated farming communities. If the farmers were not sick themselves, they were taking care of sick relatives and since most of the agriculture was done by women, who are culturally the care givers in the traditional set up, this disease had drastically reduced agricultural productivity.

Only one key informant was consulted in the design stage of the FoDiS project while six were not. The project administrators would have done better to include more of the key informants to establish more participation from the farmers considering the project was meant for them. If they were consulted, they would have shed more light on the deeper needs of the farmers which would have helped the project implementers to better their delivery of the project. The key informants unanimously agreed that the Project was useful and should be expanded to other areas.

### **Conclusion and recommendations for action**

According to this evaluation, the FoDiS Project had benefitted farmers in the targeted areas in Chongwe. Even though maize was the most important staple food in the country, maize production faced a number of problems including need for fertilizer which was highly priced, pests and diseases and changes in the climatic conditions leading to droughts. The FoDiS project helped the farmers diversify their crops and introduced drought tolerant crops such as cassava, sweet potato and traditional cereals such as sorghum and legumes in the drought prone area. This has allowed the farmers to increase food security. The FoDiS project has also helped the farmers to improve postharvest management, including how to process, utilize and preserve their farm produce in readiness for sale.

The study recommends that the FoDiS project should consider providing more seeds and fertilizer to the farmers. The farmers complained that the amount of seed given to them was less than what they need. The project should also consider including more farmers on the project and extend it for another year or two to allow more farmers especially those that recently joined the project to benefit fully from it. FoDiS should also consider providing equipment such as tractors for hire to enable the farmers to cultivate larger pieces of land which was at the time very difficult to obtain since most of them were cultivating using hoes only. Farmers also requested for alternatives such as oxen and donkeys as well as ploughs. This would enable the farmers to cultivate in good time and increase hectares. Other recommendations were that:

(i) FoDiS should help link farmers to industries that would buy their products especially cassava. This would provide a good market for the farmers produce and enable them access funds to help them purchase inputs which were costly.

(ii) FoDiS should provide farmers with lessons that will help them view farming as a business not just as something to make them food secure.

(iii) The FoDiS project should find a way of infusing information on HIV/AIDS awareness in its quest to help the farmers in Chongwe.

(iv) More agricultural extension officers should be made available to the farmers who have just joined the project to grow the drought tolerant crops which were new to them in some cases. The extension officers provide farmers with knowledge on husbandry of newly introduced crops. The extension officers should also offer training in better crop husbandry to the farmers such as better use of weed killers which would save the farmers' time of weeding their fields manually. Since the extension officers (agriculturalists) will be the ones training farmers, they need to be trained in entrepreneurship, farmer product value addition and marketing. For example, farmers should be given more training so that they add more value to their products such as grinding and packaging cassava, as this would give them more money than just selling the cassava roots.

(v) The agriculturalists should also be trained in monitoring and evaluation to better monitor and learn from their projects and they should also have a good knowledge of the indigenous farming practices, language and culture of the places they operate in. This would help them be more practical in handling the challenges they face in the field which might have a cultural inclination.

The key recommendation to farmers is that they must grow out of the dependency syndrome to avoid depending on the FoDiS project or indeed other projects for their farming activities. Sustainable food security will only be attained when farmers learn to help themselves.

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