



Exit Strategies in Improving Household Food Security in Tanzania: A Case of Agricultural and Food Security Project in Bahi District

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Abstract

This study assessed the effectiveness of exit strategies adopted by World Vision Tanzania through the Agricultural and Food Security Project in Bahi District, Dodoma Region. The study analysed the implementation of activities planned during the transition period, and examined food security status among the former Chipanga Area Development Program (ADP) supported households. The study involved 110 respondents. Data were collected using structured questionnaire and document review. Analysis of qualitative data was done by content analysis technique while quantitative data was analysed using the Statistical Package for Social Science (SPSS) software. Results show that generally, most elements of the exit strategies were not implemented due to cut off of funds. Also, about three quarters of respondents were food insecure mainly due to persistent erratic rainfall and limited diversification of income sources. It is recommended that the projects involving agricultural interventions to establish drought resilience infrastructures to support irrigated crops. In addition, the income sources of households should be diversified.

Keywords: Household food security, exit strategies, World Vision Tanzania



1.0 Introduction

Food security has been an issue of concern among individuals, governments, public and non-public organizations largely due to its vital importance to human development. Its absence, commonly referred to as food insecurity, is conceived as a manifestation of poverty and can affect negatively labour productivity and opportunities to participate fully in community and public life (Maliyamkono, 2006). This is so because food insecurity leads to ill-health, poor nutritional status and loss of time in search for food, which could otherwise be used for productive ventures.

The conception and measurement of food security has been changing over the last four decades. One of the widely accepted definition of food security, which arose from the 1996 World Food Summit states: 'Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life' (World Vision, 2009). This understanding of food security is also upheld by the World Bank which states that food security is concerned with physical and economic access to food of sufficient quality and quantity in a socially and culturally acceptable manner (World Bank, 2008).

As a concept, food security is multi-disciplinary and cross cutting and can be measured at household, national, regional or global levels (URT, 2005; World Bank, 2008). At the global level, especially in 1970s, food security was perceived in terms of international community's supplies of food to countries with food shortages. However, with the realisation that international supply did not necessarily lead to national food availability, the notion was dropped in favour of national production, food reserves and the pre-occupation with self-sufficiency (Devereux, 2003). At national level, food security tends to be equated with adequacy of the national food balance between food demand and supply at reasonable price (URT, 2005). With the promulgation of Entitlement Theory (Sen, 1991), emphasis on measuring food security shifted from balancing demand and supply of food to household's accessibility and entitlement to food (Maxwell and Frankenberger, 1992). A household's food entitlement is defined as ability to meet aggregate food requirements of all household members (Sen, 1991) and can be achieved through household's own production, income, gathering of wild foods, community support (claims), assets and migration.

To date, food security is, generally, perceived to have three components: Food availability, accessibility and utilisation. Food availability refers to presence of enough food to go a year around. Food access refers to the ability for everyone in a household to get food when in need of it and can be influenced by physical, economic, socio-political and physiological factors (World Vision, 2009). Food utilisation has to do with the contribution of food to nutritional requirements (World Bank, 2008; World Vision, 2009).



While enough food is produced to meet global needs World Bank (2008); Clapp (2009) show that by the mid 2009 the number of undernourished people in the world had surpassed 1 billion. Also, about 850 million people suffered from food insecurity in the developing world (World Bank 2008; World Vision 2009; One World Guide, 2009). The regions most affected by food insecurity are Sub-Saharan Africa and South Asia (One World Guide, 2009). As a country, Tanzania is generally considered to be food insecure (URT, 2005; 2009). Regions prominently affected by food insecurity include: Arusha, Kilimanjaro, Lindi, Manyara, Mara, Mwanza, Mtwara, Shinyanga, Singida, Tabora and Dodoma (URT, 2009). While most rural areas in the country rely on own farm production for food, climatic change has lowered farm productivity, especially in these regions leading to inadequate food production and accessibility (Rwezaura, 1994).

In line to the findings of a baseline survey conducted in Chipanga area in 1994 by Rwezaura (1994), World Vision Tanzania (a development, relief and advocacy NGO), established the Agriculture and Food Security Project under Chipanga Area Development Programme (ADP). Project funds were obtained from Australian support office. The project aimed at improving agriculture productivity and food security in the area and was managed in partnership with community members from 1994 to 2009, when it was closed down (WVT, 2009). In order to ensure sustained benefit flow after ending donor support, the ADP designed and implemented an exit strategy in the last three years of the project engagement (2006/09). By definition, exit strategy is a plan describing how the programme/project will withdraw its resources from a region or population while ensuring that benefits generated and activities will continue in the same or modified format (Rogers and Macías, 2004). Proponents of exit strategies strongly argue that the goal of an exit strategy is not only to maintain benefits achieved, but also to enable further progress toward the programme/project's development goals (Rogers and Macias, 2004; Gardener *et al.*, 2005). This is so because an exit strategy puts in place a system whereby the benefits expand beyond the original beneficiaries and their communities (Rogers and Macias, 2004).

The main elements of the exit strategy set in place with view to improve food security included training farmers' groups on improved farming practices, as well as facilitating groups of farmers to get experience in production of new cash crops like sunflower from other progressive farmers outside the Chipanga area. Besides, community sensitization through on-farm training was done in villages by Village Agriculture Facilitators (VAFs) who demonstrated on farm preparation, use of manure, plant spacing, among others (WVT, 2009). Other initiatives undertaken included: establishing "SHIMACHI", a community based development organization (CBO) to further carry ADP interventions. Also, two VAFs were trained from each village supported by the ADP to and were obliged to visit and sensitize farmers on improved agricultural practices. Despite these efforts by the ADP to improve



food security in the area, little is known on the effects of such initiatives. This study, therefore, attempts to assess the effectiveness of the exit strategies in improving food security in the study area. The focus of this paper is on measuring food security status the household level in Chipanga ADP. Specifically, it sought to find out the extent to which the exit activities were implemented during the project's transition period and examining food security status among former ADP supported households.

2.0 Study area and Methodology

This study was carried out in four villages namely, Chipanga A, Chipanga B, Chikola and Ng'hulugano. The villages are found in Chipanga ward, Bahi district, Dodoma region. Chipanga area and the district at large are predominantly rural where farming is the main occupation for the majority of people (WVT, 2009; URT, 2010). The study used a descriptive case study design with view to attain in-depth examination of the activities done as the exit strategies and their impact after the project graduation (Burns, 2000; Varkevisser *et al.*, 2003). The Agriculture and Food Security project under the former Chipanga ADP was purposively selected as case study because it designed and implemented an exit strategy. In addition, the project had phased out three years ago before the data collection for this study (October-November, 2012). Therefore, it could provide a good understanding of the impact of project activities and exit strategies adopted.

A total of 110 respondents who were formerly supported by the ADP were involved in this study with the household being the sampling unit. The household is used as a unit of analysis because beneficiaries of ADP support were household members and the aggregate food requirements of all household members, including food availability and access, can easily be gauged at household level. Further, in many developing countries, the household has a dual role, as it is both a production and consumption unit thus responsible for ensuring food security to its members.

Sampling of the study area and key informants was done purposively while household respondents were sampled by simple random technique. In order to achieve study objectives, interview schedule was used to collect quantitative data while interview guide and Focus Group Discussion (FGD) were used to collect qualitative data. Document analysis was used to collect secondary data. The interview schedule was administered to household respondents while interviews were done to key informants, namely; the former ADP Project Coordinator (PC), and ADP/SHIMACHI Chairperson. FGD involved six participants. Analysis of qualitative data was done by using content analysis technique while quantitative data were analysed by SPSS computer software in form of descriptive analysis with view to generate frequencies and percentages.



Measurement of food security was done using Household Food Insecurity Access Scale (HFIAS) which assesses whether households had experienced problems in food (access) in the preceding 30 days (Coates *et al.*, 2007). HFIAS is composed of nine questions that ask about modifications households made in their food consumption patterns due to inadequate resources to acquire food. The questions covers three themes: (i) experiencing anxiety and uncertainty about the household food supply; (ii) changing quality of the diet; and (iii) reducing quantity of food consumed. Each of the nine questions is assigned frequencies of occurrences ranging from 1 (rarely), 2 (sometimes) to 3 (often) which provide an index of 27 scores, whereas rarely meant once or twice, sometimes three to ten times and often more than ten times in the past four weeks. In the current study, HFIAS was used to determine prevalence and occurrence of food insecurity. The scale had scores ranging from 0-27 from which four categories of household were developed; food secure (0-6), mild food insecure (7-13), moderate food insecure (14-20), and severely food insecure (21-27). Lower scores were indicative of greater access to food and greater household food security and vice versa (Coates *et al.*, 2007). The tool was preferred because it provides a means for programme to measure the impact of their programme easily and can capture the household's perception of changes to the quality of their diet regardless of the diet's objective nutritional composition (Coates *et al.*, 2007).

3.0 Results and Discussion

3.1 Implementation of the elements of the exit strategy

The activities which were implemented as the exit strategies involved training farmers' groups on improved farming practices, as well as facilitating groups of farmers to get experience in production of new cash crops like sunflower from other progressive farmers outside the Chipanga area (Table 1). Community sensitization through on-farm training was done in villages by Village Agriculture Facilitators (VAFs) who demonstrated on farm preparation, use of manure, plant spacing, among others. The current study sought to ascertain how effective these elements were implemented during the transition period. Generally, study results in Table 1 reveal that the exit strategy was effective in some elements and not with others.

While the interest of this study was to capture the activities used as exit strategies for the entire transition period, only data pertaining to the final year were obtained. This was so because documents including the "Transition Plan" had been archived in another ADP. Study results in Table 1 reveal that three out of six elements (50%) were not implemented at all. The reasons behind, according to Financial Year 2009 annual programme management report were funds shortage, unavailability of facilitators and unfavourable weather conditions. Of the three elements implemented, only one (33.3%) was implemented for over one hundred percent while the remaining two were implemented for



19% and 58.8% of set targets. The main reason for failure to fully implement these elements, according to the PC and the Financial Year 2009 annual programme management report, was shortage of funds. Also, the number of participants for the training of CBO leaders on mushroom production was increased since the training was conducted within their localities; hence, more participants were invited.

Table 1: Implementation of exit activities in the final year project engagement

Activities for financial year 2009	Target	Achievement	%
Train farmers on sesame, groundnuts and sunflower production	100	19	19
To facilitate farmers attend field visit for sharing and learning from progressive farmers	17	10	59
To train CBO members on vegetable and mushroom production	20	27	135
To facilitate 'NaneNane' farmers Exhibition	10	0	0
To train community members and project staff on early response to disaster management (ERDM)	34	0	0
To facilitate 1000 families plant trees	1000	0	0

Source: Chipanga ADP, 2012

Qualitative results from FGD participants clearly showed that SHIMACHI was not only inactive but also incapable to further carry activities that were to be done by the ADP with respect to improving agriculture production and food security. It was also found that VAFs had stopped visiting farmers. Generally, study results show that local institutions set in place, as part of the exit strategy to improve food security were not effective.

3.2 Food security status among formerly ADP supported households

Regarding prevalence, more than one third (37.3%) of community members in the study area were food secure whereas the remaining two third (62.7%) were food insecure; ranging from mild (34.5%), moderate (23.6%), and severe (4.5%) (Table 2). Comparatively, the village that was most affected by food insecurity was Chipanga A (70.4%), followed by Chipanga B (62.7%). As for Chikola and Ng'hulugano villages, the proportion of people affected by food insecurity was less than two third: 59% and 60%, respectively. The variations of households affected with food insecurity, however, were statistically significant at $p= 0.05$.



Table 2: Status of food security among the study respondents (n=110)

Food security status	Village				Total	Chi square value
	Chipanga A	Chipanga B	Chikola	Ng'hulugano		
Food secure	8 (29.6)	9(37.5)	16(41)	8(40)	41(37.3)	x ² =19.982 p=0.018
Mildly insecure	7(25.9)	8(33.3)	13(33.3)	10(50)	38(34.5)	
Moderately insecure	7(25.9)	7(29.2)	10(25.6)	2(10)	26(23.6)	
Severely insecure	5(18.5)	0(0)	0(0)	0(0)	5(4.5)	
Total	27(100)	24(100)	39(100)	20(100)	110(100)	

Note: Figures in brackets are percentages

The results in Table 2 suggest that food insecurity was decreasing with increase in severity. This implies that very few households (4.5%) were severely affected by food insecurity and therefore, could resort to coping strategies which could erode household resource base, including borrowing and sell of household asserts. Compared with findings from other ADP which showed greater improvement in food security among project supported household members (Masanyiwa and Ziihona, 2008, Masanyiwa *et al.*, 2013). These results, generally, show that food security had not been improved. The reason behind, according to focus group discussion participants was persistent erratic rainfall for the last three years of project interventions. Indeed, this period coincided to the implementation of the exit strategy for the Agriculture and Food Security Project. The problem was aggravated by lack of infrastructure to support irrigation agriculture and limited diversification of income sources. It follows, therefore, that the exit strategy adopted were to set in place alternative mechanisms to defend against unfavourable weather condition and to diversify income sources of project beneficiaries.

With respect to occurrence, three domains were assessed; experiencing anxiety and uncertainty about household food supply; changing quality of the diet and changing the quantity of food intake. The frequency of occurrence was considered rarely if it occurred once or twice, sometimes for three to ten times and often for more than ten times in the past four weeks.

Starting with experiencing anxiety and uncertainty about household food supply, study results show that more than three quarters of respondents (76.4%) worried about not having enough food whereas 14.5%, 20% and 41.8% worried rarely, sometimes and often, respectively (Table 3). Changing quality of the diet, which is a dimension of food utilisation, study results in Table 3 show that 71.8% were not able to eat the kind of food preferred; 58.2% ate limited variety of foods due to a lack of resources and 58.2% ate some foods that really they did not want to eat because of a lack of resources to obtain other types of



food. As noted by Cleveland, (2007), change of diet constrain the ability of the body to get necessary nutritional requirements, which in turn, impairs the ability to work and reduces resistance to disease.

Table 3: Changing quality of the diet due to lack of resources to keep food on plate (n=110)

Condition experienced by household member(s)	Frequency			Total
	Rarely	Sometimes	Often	
Not able to eat the kinds of foods preferred because of a lack of resources	32(29.1)	26(23.6)	21(19.1)	79(71.8)
Ate a limited variety of foods due to a lack of resources	20(18.2)	28(25.5)	16(14.5)	64(58.2)
Ate some foods that really they did not want to eat because of a lack of resources to obtain other types of food	22(20)	27(24.5)	15(13.6)	64(58.2)

Note: Figures in brackets are percentages

According to Coates, *et al.* (2007) and Masanyiwa *et al.* (2013), reducing the quantity of food consumed is a widely preferred strategy to cope with food shortages. This is because it does not erode household resource base (Narayan, 1997; Moris *et al.*, 2006). Despite its popularity, Matunga *et al.* (2009) argue that the method is detrimental for it can cause poor health status among household members.

Study results in Table 4 show that study respondents reduced the quantity of food intake first by eating a small meal (70%) and then eating fewer meals (54.5%). Further results show that 25.5% the household had no food to eat of any kind in the home through the households' usual means (e.g. through purchase, from the garden or field, from storage, etc.). As the situation got worse, household missed some meals in twelve hours spell firstly, by going to sleep at night hungry (22.7%) and secondly, by missing two meals consecutively (5.5%). Generally, the proportion of study respondents who experienced hunger was less than one quarter.



Table 4: Reducing the quantity of food consumed and its physical consequences (n=110)

Condition experienced by household member(s)	Frequency			
	Rarely	Sometimes	Often	Total
Ate a smaller meal than they felt they needed because there was not enough food	16(14.5)	36(32.5)	25(22.7)	77(70.0)
Ate fewer meals in a day because there was not enough food	18(16.4)	35(31.8)	7(6.4)	60(54.5)
No any food to eat of any kind because of lack of resources to get food	15(13.6)	8(7.5)	5(4.5)	28(25.5)
Went to sleep at night hungry because there was not enough food	17(15.5)	7(6.4)	1(0.9)	25(22.7)
Went a whole day and night without eating food because there was not enough food	4(3.6)	1(0.9)	1(0.9)	6(5.5)

Note: Figures in brackets are percentages

Seen in the light of the exit strategy however, the results about household experiences about whether or not to have enough food on the plate imply that the exit strategy adopted was not effective in improving food security in Chipanga area. Apart from establishing local institutions to further carry ADP interventions, little was done to establish a system where benefit flow is not only continued but also expands to beyond original beneficiaries and their communities (Rogers and Marcia, 2004). As a result, project participants were food insecure. The main reason for persistent food insecurity, according to FGD participants, was persistent dry season, erratic rainfall and limited diversification of sources of income. Experience from Zambia, Zimbabwe and Lesotho show that recurrent cycle of drought challenges not only planning but also implementing exit strategies (Gardner *et al.*, 2005). It follows therefore, that it is important for projects involved in agricultural interventions to establish drought resilient infrastructure to support irrigation agriculture especially, in times and places experiencing erratic rainfall.

4.0 Conclusion and Recommendations

Most elements of the exit strategies were not effectively implemented in Chipanga ADP due to shortage of funds. Also food security status among formerly ADP supported households had not improved whereas about two third of households interviewed experienced food insecurity. The main reason was erratic rainfall and limited, lack of infrastructure to support irrigation agriculture and limited diversification of income sources.



It is recommended that development projects dealing with improving agricultural productivity and food security should set in place drought resilient infrastructures so as to address the trauma of drought. Also, household income sources should be diversified so as to reduce over reliance on own farm production. Finally, mobilisation of enough funds from both internal and external sources should be considered to facilitate effective implementation of planned activities which in turn, would lay down a reliable foundation for further benefit flow.



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