Reducing Income Poverty through Financial Support to the Poor in Zanzibar: Are Small Scale Vegetable Farmers worthy Government Attention?

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ABSTRACT

Financial support for improving businesses among the very poor has for very long time been considered too risky and thus unattractive. Subsequently, most governments of poor countries have been establishing specialized financial institutions to support the efforts of those who cannot qualify for loans from commercial financial institutions asexemplified by interventions by Zanzibar Economic Empowerment Fund (ZEEF). This study was carried out in Chake Chake District in Pemba Island to assess the effect of ZEEF intervention on income growth among small scale vegetable farmers. Specific objectives of the study were to examined support services by ZEEF to small-scale vegetable farmers; determining level of income and savings before and after receiving support among supported farmers; as well as identifying determinants of income growth. Results indicated that micro-credits and training on agribusiness were the main interventions received by most farmers from ZEEF. The interventions by ZEEF had positive impact on vegetable farmers' welfare as they improved both income and savings. Based on these findings it was recommended that ZEEF should scale up its efforts to provide support to farmers focusing on linking farmers with other financial institutions for additional funds, input providers, and research institutions; provision of training on agribusiness skills, and improving extension services and other services that are important in the value chain of vegetables.

Keywords: Micro-credits, smallholder, vegetable farmers

1.0 INTRODUCTION

Despite the available evidence from various studies on how credit support has been transforming businesses of the poor (Alwarritzi *etal.*, 2015; Akamin *et al.,* 2017; Agyekumhene *et al.,* 2018), provision of loans to small scale farmers remains a contested issue. Smallholder farming is widely acknowledged as one of the world's economic occupations that constitute the main source of income and employment for the 70% of the world's poor, and accounts for 60% of global agriculture; with increasingly gaining its importance in Indonesia, Philippines, Swaziland, Sweden, Bangladesh, South Africa, Kenya, Tanzania, Congo, China, India, and the USA (FAO, 2017). In Tanzania, small scale vegetable farming is growing fast at an annual rate of 6 -10% and has significantly contributed to the country's export earnings, food security, nutrition improvements and economic growth (HODECT, 2010).Smallholder vegetable farmers in Zanzibar operate in the informal economy that mainly employs low skilled labor, particularly women with tomatoes, onions, chili, pumpkin, spinach, carrots, eggplant and pepper being most common vegetable products (RGOZ, 2014; Mchenga and Abubakar, 2016). In order to improve efficiency, profitability and growth among small scale vegetable farmers, programs such as CORDAID, VSO, USAID, TAPP and ZEEF have been supporting farmers for increased food security and income through enhanced productivity (RGOZ, 2014). In Chake Chake District about 45% of small scale farmers are engaged in vegetable farming, where nearly half of them are characterized by low income and poor standards of living. (OCGs, 2017). In recognizing this problem of low productivity and poverty among small scale vegetable famers in the area, the Revolutionary Government of Zanzibar has taken deliberate steps to support smallholder vegetable farmers through Zanzibar Economic Empowerment Fund (ZEEF) by providing soft loans (ZEEF, 2014). However, scanty information exists on the performance of the intervention. Therefore, this study was carried out in the area to assess the effect of ZEEF intervention on income growth among small scale vegetable farmers. The study specifically examined support services by ZEEF; determined level of income and savings before and after receiving support; and identified determinants of income growth among small scale vegetable farmers.

2.0 METHODOLOGY

2.1 Study Area and Research Design

This study was carried out in Chake Chake District in Pemba Island in Zanzibar between May to June, 2020. The study involved a cross sectional survey to a random sample of 87 vegetable farmers from two *Shehias* namely Wawi (50 farmers) and Pujini (37 farmers), and data were collected through structured interviews with individual vegetable farmers using a questionnaire. Sample size was determined according to Yamane (1974). Furthermore, number of farmers for each *Shehia* was determined as proportionate to total number of farmers in a *Shehia* relative to total number of farmers for the two *Shehias*. In addition, two Focus Group Discussions (FGDs) (one for each *Shehia*) were also carried out to get additional information and gain more insight on the issues under study.

2.2 Data Analysis

Quantitative data were analysed through descriptive and inferential statistical analyses using SPSS software version 21. Descriptive statistics involved computation of frequencies and percentages, while inferential statistics involved paired samples t-test for comparing the income of vegetable farmers before and after ZEEF intervention, as well as binary logistic regression analysis for determining determinants of income improvement among ZEEF beneficiaries using equation 1. Variables description and their measurement for the logistic regression model is indicated in Table 1. On the other hand, thematic analysis was used to analyse qualitative data.

$$\ln\left[\frac{\Pr(Y_i = 1)}{1 - \Pr(Y_i = 1)}\right] = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + ... + \beta_8 X_{8i} + \varepsilon_i \text{ Where:}$$

$\Pr(Y_i = 1)$ Probability that income by respondent improved after ZEEF support;

β_0 = Constant term (Intercept);

β_1 ….. β_8 = Parameter to be estimated;

$X_1…X_8$ = Independent variables;

ε = Distributed error term.

Table 1: Variable description and their measurement

Variable name	Variable description	Variable type	Variable measurement	Prior expectation
Y	Income improvement	Dummy	1 = Improved; 0 = Not improved	
X_1	Gender	Dummy	1 = Female; 0 = Male	+
X_2	Age	Dummy	1 = < 50 years; 0 = Otherwise	-
X_3	Education	Dummy	1 = Formal education; 0 = Informal	+
X_4	Loan size	Dummy	1 = > TZS 3,500,000; 0 = Otherwise	+
X_5	Capital	Dummy	1 = > TZS 1,000,000; 0 = Otherwise	+
X_6	Farming experience	Dummy	1 = > 5 years; 0 = Otherwise	+
X_7	Agribusiness skills	Dummy	1 = Acquired; 0 = Otherwise	+
X_8	Market accessibility	Dummy	1 = Accessible; 0 = Otherwise	+

3.0 RESULTS AND DISCUSSION

3.1 Characteristics of Respondents

The respondents in this study were small scale vegetable farmers who had benefited from ZEEF support. The respondents had different socio- economic characteristics in terms of age, gender, marital status, family size, farming experience and education level. These characteristics are presented in Table 2. Majority of respondents (63.2%) aged between 41-50 years, implying that vegetable farming is dominated by mature adults. These findings are consistent with Ngari (2007) who observed that although young people in Kenya were receptive to new ideas in agriculture practices, they did not perceive farming as key economic activity.

In terms of Gender, there was high proportion of female respondents (71.3%) as compared to their male counterparts (28.7%). This is not a coincidence; there are more female participants in small scale vegetable farming than male, probably because vegetable farming requires relatively small capital and is closely linked to household food security of which women are more concerned. These findings are similar to those by Ogola *et al.* (2014) who found that,

out of 3 million small holder farmers in Kenya, 69% were women and most of them were engaged in agricultural activities on the family land; while Kihongo (2015) observed that men did not want to connect themselves with farming activities because either; it took a long time to acquire loans; or the provided loans were inadequate for business capital. Majority of the respondents (70.2%) had attended secondary education; were married (83.9%); had big household size of between 7-9 persons (72.4%); and had long experience with vegetable farming activity of between 7-9 years (66.6%). Louw (2015) found that marital status in South Africa had positive implication on social organization and agriculture practices.

Table 2: Demographic characteristics of respondents (n=87)

Variables	Categories	Frequency	Percent
Age	18-30	3	3.4
	31-40	20	23.0
	41-50	55	63.2
	Above 50	9	10.4
Gender	Female	62	71.3
	Male	25	28.7
Education level	None	5	5.7
	Primary	19	21.8
	Secondary	61	70.2
	Higher Education	2	2.3
Marital status	Single	2	2.3
	Married	73	83.9
	Divorced	5	5.8
	Widow	7	8.0
Household size	1 - 3	4	4.6
	4 - 6	15	17.3
	7 - 9	63	72.4
	Above 9	5	5.7
Farming experience (Years)	1 - 3	3	3.4
	4 - 6	19	22.0
	7- 9	58	66.6
	Above 9	7	8.0

3.2 Support services received from ZEEF by small scale vegetable farmers

ZEEF was supporting farmers in terms of credit, training, extension services, and linking them with other institutions and markets for improvement of their income. Credit was the most important service provided by ZEEF to farmers and had been enjoyed by all respondents (Table 3). However, some of the respondents complained over the terms and conditions of the loans that were not favourable to the poor;

"*…some of the conditions are difficult to implement. ZEEF requires the applicant to be a member of economic group which is registered. The applicant has also to prepare a business plan. ZEEF does not provide for a grace period; repayment of loan starts soon after receiving the loan and the repayment period is very short - only six months! This means the loan is not meant for stating a new business but for improving the already established businesses. Understandably, many borrowers seek loans for business capital….*" (*FGD participant in Wawi Shehia*). Similar complaints were also echoed in Pujini *Shehia*.

Table 3: Support services received from ZEEF (n = 87)

.Service*	Frequency	Percent
Provision of credit	87	100.0
Provision of training	72	82.8
Linkage to market	52	59.8
Extension services	30	34.5

*Multiple responses

3.3 Income and savings before and after receiving ZEEF support

Although majority of the vegetable farmers had other income generating activities such as livestock keeping, small businesses, handicraft and other crops; vegetable farming was their main income earner through tomatoes, eggplant, spinach okra and pepper, as it has been reported elsewhere (Selwa and Abubakar, 2016). A paired sample *t* - test was conducted to determine the difference between income and savings among small scale vegetable farmers before and after ZEEF support. Table 4 shows that the average income and savings among vegetable farmer improved significantly after ZEEF support compared to situation before

support (P < 0.001), and hence positive impact of the program. While income improved by 50%, savings improved by 31.2%. This was a substantial improvement. The findings call for further support to such programs. Results of present study concur with what has been reported by Ghosh and Weather head (2015) in Unguja Island, Zanzibar for CASH project that among others also geared at improving income among small scale vegetable farmers through provision of credits.

Table 4: Paired sample *t*-test for mean difference of farm income and Savings before and after ZEEF support

Variable	n	Mean	Std. Err
Income After ZEEF	87	8,945,402	135,774.3
Income before ZEEF	87	5,942,529	117,439.9
Difference	87	3,002,874	133,810.4
Savings after ZEEF	87	307,011.5	10,348.27
Savings before ZEEF	87	234,252.9	9,537.041
Difference	87	72,758.62	5,117.412

Mean (diff) = mean (Income/Savings after ZEEF – Income/Savings before ZEEF),

t = 22.4413/14.1235; P- value = 0.000

3.4 Determinants of Income Improvement

A binary logistic regression was performed to assess the determinants of income improvement among small scale vegetable farmers who had been supported by ZEEF. The results of the regression analysis are presented in Table 4. It was found that the independent variables were jointly, important determinants of income improvement among small scale vegetable farmers. Results indicate that age of a farmer, gender, education, access to loan, availability of physical capital, agribusiness skills and access to market were the major determinants of income improvement of farmers engaging in vegetable production under ZEEF support, and the results were in accordance with the prior expectation. The effect of experience was not significant. As it can be seen in the table, components that were mostly supported by ZEEF namely; credit, training, and market linkage had significant impact on income improvement. Since vegetable farming is the main activity with substantial proportion of households engaging in its farming in the area (Ghosh and Weather head; Selwa and Abubakar, 2016),

increased support to these farmers through interventions such as those by ZEEF would definitely drive out poverty from a substantial number of farming rural households in the area.

Table 5: Results of binary logistic regression model for determinants of income improvement among ZEEF supported farmers

Determinants	Odd Ratio	Standard Error	Z-statistic	p-value	Sig.
Age	0.960	0.175	-1.68	0.093	*
Gender	19.074	17.318	3.25	0.001	***
Education	3.517	2.638	1.68	0.094	*
Loan	9.796	7.377	3.03	0.002	***
Capital	7.349	6.245	2.35	0.019	**
Agribusiness skills	8.941	8.765	2.23	0.025	**
Experience	2.319	1.83	1.07	0.286	Ns
Market accessibility	3.781	2.781	1.81	0.071	*
Constant	0.002	0.003	-3.97	0.00	***
Mean dependent var	0.640	SD dependent var	0.483		
Pseudo r-squared	0.505	Number of obs	86		
Chi-square	56.725	Prob > chi2	0.000		
Akaike crit. (AIC)	73.709	Bayesian crit. (BIC)	95.798		

***= Significant at 1%; ** = Significant at 5%; * =Significant at 10%; ns = Not significant

4.0 CONCLUSION AND RECOMMENDATIONS

Micro-credits and training on agribusiness are the key intervention received by most farmers from ZEEF, and to some extent, linkage to markets and extension services. The interventions have positive impact to vegetable farmers' welfare as they improved both income and savings. It is recommended that ZEEF should scale out its efforts to provide support to farmers focusing on linking farmers with other financial institutions for additional funds, linking farmers to input providers and research institutions; and provision of training on agribusiness skills; improving extension services and other services that are important in the value chain of vegetables.

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