Assessment of Factors Affecting Farmers’ Cooperatives Development: A Case of Zanzibar-Tanzania

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Abstract: The main objective of the study was to assess factors influencing development of farmer cooperatives in Zanzibar. Both qualitative and quantitative methods used to collect primary and secondary data from study area. The responses elicited from 135 respondents, included 105 cooperative members and 30 cooperative managers, randomly sampled from target population. Furthermore, 15 key informants purposely sampled from Department of Cooperatives and Ministry of Agriculture interviewed to clarify respondent's answers. In order to identify factors influencing cooperative development, a standard multiple linear regression used to analyse and interpret data findings. The results showed that disloyalty and conflicts, product value addition, business contract and strategic planning and low level of government incentives have negatively influenced development of farmer cooperatives. While cooperative training had positively influenced development of farmer cooperatives. The study recommends regular supervision of cooperative officers, capacity building of cooperative department, provision of training and education, engagement of youth in cooperatives, and improvement of cooperative law to respond to changing global social and economic trends.

Keywords: Farmers Cooperatives, Social Factors, Economic Business Factors, Unguja Island.

1. Introduction

Agriculture has continued to be a backbone of Zanzibar economy, providing food and accounting for 31% of GDP and provide employment for 70% of population, particularly in rural area [1].

Agricultural cooperatives in Zanzibar remain a reliable engine to facilitate and organize small-scale marginalized farmers to access credit, marketing opportunity and economies scale of agricultural production [2]. Farmer cooperatives of Zanzibar are increasing tremendously as a way of improving agricultural production and easy access of agricultural input [3].

In the second phase of vision 2020 of poverty reduction strategy, the Government of Zanzibar recommends the need of cooperative policy for guiding and promoting cooperatives movement [3]. Despite the effort made by government, development level of farmer cooperatives in Zanzibar has not yet realized the national anticipated objectives. As a result, small-scale farmers are still suffering in poverty trap and thus failing to utilize available development opportunities [3].

Therefore, the present study was aim to assess those factors affecting development of farmer cooperatives in Zanzibar. The Specific objectives are:

- To examine social factors influencing agricultural cooperatives development;
- To assess economic factors influencing agricultural cooperatives development; and
- To assess institutional management of agricultural cooperatives.

3. Literature Review

[4] defines cooperatives as “an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise”. Cooperatives guided under the value of self-help, self-responsibility, democracy, equality, equity, solidarity, honesty, openness, social responsibility and caring for others. Cooperatives around the world have the same seven principles of voluntary and open membership; democratic member control; member economic participation; autonomy and independence; education and training; cooperation among cooperatives; and concern for community [4].

According to [5] cooperatives normally formed by those individual experiencing complexity in dealing with aspect of economic change. For Zanzibar context cooperatives is an association of person who have come together with an objectives of promoting the economic and social welfare of it members [3].

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Cooperative movements in Zanzibar begin in 1920s, and legalized by cooperatives societies’ ordinance (Cap.490) of 1925. The British colonial government fostered cooperatives marketing among small holders, so that the cost of producing cloves would go down and more cloves could be exported [2]. The clove growers association was early types of voluntary cooperatives that government agricultural officers helped to organize, with intention of regulating the cost of production of cloves by fixing wages and gaining control of the clove marketing and financing the clove planters. However, in 1934 cooperative business operations were disbanded due to duplication of cooperatives role with those of the state controlled clove growers association, and clove marketing was kept under the control of clove grower association (CGA) which now become a government agent with the monopoly of buying and selling cloves [2].

Zanzibar cooperatives were organized on tribal lines in each context (Africans, Arabs and Indians) having its own cooperatives, as a consequence lead to deterioration of cooperative movement [2]. Cooperative movement reestablished after twelve years later and department of cooperative societies created in 1950 with the appointment of cooperatives register [3]. In 1986, law of cooperatives society Act No. 4 approved to give a new legal base for cooperatives movement and activate it is economic roles. Cooperatives movement in Zanzibar has three–tier structure as provided from cooperatives law, i.e. primary cooperatives, secondary cooperatives (Unions), and an apex body [2].

Cooperatives societies in Zanzibar operate mainly in four sectors namely; agriculture, small scale manufacturing, finance, tourism, and services sectors. Agriculture based cooperatives form the bulk of cooperative societies in Zanzibar, based on available data there are 1,936 agriculture related cooperatives societies as of July 2017 corresponds to 73.8 percent of existing registered cooperatives [3].

Farmer’s cooperatives in Zanzibar have continued to be an important pillar for organizing and supporting livelihood of large proportion of rural population, it is responsible for ensuring social relationship, food security, and improving agriculture production. It has a potential of increasing employment opportunities to nearly half of the labor force, as well as extending financial services delivery through Savings and Credit Cooperative Society [1], [3].

However, agricultural related cooperatives in Zanzibar characterized by inadequate product diversity and majority are limited to the production of a few products at primary stage, while other possible areas for investment including agricultural value chain have not been efficiently realized [6]. Like many other developing country farmers cooperatives in Zanzibar have failed to deliver services required by members and not yet realized their socioeconomic demands [2]. Factors influencing development of farmer cooperatives in developing countries have been discussed by several authors including of [7] - [11].

According to [7] contend that, among factors affecting success of agricultural marketing cooperatives of Becho Woreda in Ethiopia are mutual trust among cooperatives member, participation in cooperative governance, member homogeneity, communication medium, interpersonal skills and market access. [8] found that vertical integration, high quality produce, volume of membership, proper record keeping, level of technology, skills of management committee and staff, timely dimension of appropriate information, and adoption of strategic plan was a key success for agricultural cooperatives marketing in Kenya. Moreover, [9] reported that suitable institutional arrangement and good governance are significance to the performance of agricultural cooperatives. In addition to that, member participation, technical knowledge, individual interest, understanding the concept of cooperatives, income, financial investment, current investment and marketing capacity are crucial for the development of farmer’s cooperatives [8], [12], [13]. Moreover, [10] identified factors such as leadership strength, group size, business relationship and member’s selection processes during the group’s formation. [11] Identified three significant factors for the success of agricultural marketing cooperatives such structural, financial and operational factors. Little documented on the factors influencing farmers’ cooperatives development especially in Zanzibar Island. Therefore, the present study focuses on the assessment of factors influencing development of farmer’s cooperatives in Zanzibar. The study examines several factors such as social, economic and institutional factors.

4. Methodology

4.1 Research Design

This study used a case study design in combination with both qualitative and quantitative methods in data collection. The data analyzed with the intention of gaining an in depth understanding of the cases. In addition, mixed methods selected to understand and test causal propositions [14].

4.2 Study Area

Zanzibar is semi-autonomous part of United Republic of Tanzania, located in the Indian Ocean between latitude 04°50’ - 06°30’S and longitude 39°10’ - 39°50’E and about 35 km off the northern coast of East Africa (Figure 1). Zanzibar has two major Island of Unguja with an area of 1,554 km², and Pemba with an area of 990 km². The climate of Zanzibar is warm and humid influenced by peripheral thicket/forest scrub, and tropical climate with bimodal rainfall pattern. The long rain season (Masika) occurs from March to May and the short rain (Vuli) from October to November. The hot season occurs during the NE monsoon period (Kaskazi) between December and February and a relatively cool dry season (Kipupwe) occurs between June and September.

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The study conducted from July to September 2017 and involves three regions of Unguja South, North and West regions. The area were selected based on the availability of a cooperatives engaged in farming activities, and accessibility for research study.

4.3 Study Population

The population comprised cooperatives members, and cooperatives leaders from registered farmers cooperatives engaged in farming activities, with at least five years of experiences. Additional key informants from cooperatives union, cooperatives department and from ministry of agricultural were included to provide clarification of respondent’s information. The total target population consists of 1350 registered farmers cooperatives members from three regions of Unguja.

4.4 Sample Size and Sampling Techniques

For the present study, 10% used to define sample size. This figure was preferred according to [15] reported that, for sample social research should be 10% of population, but if the population is small then 20% may be required.

Therefore, using simple random sampling techniques, 135 respondents selected for interview. A technique used in order for each member to have equal chance of being selected [14]. In addition, 15 key informants purposively selected based on their working experience in a field of cooperatives study.

4.5 Data Collection

Study collected both primary and secondary data. Primary data collected from selected respondents through interview using structured questionnaire. Secondary data collected from research publications, technical reports and related document obtained from Department of Cooperatives and Ministry of Agricultural and Natural resources.

4.6 Data Processing and Analysis

The respondent’s demographic characteristics analyzed using descriptive statistics in SPSS version 16 and presented as percentages and frequencies in a table. Standard multiple regression analysis used to analyze factors influencing cooperative development, represented by a specific model shown as Equation (1):

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + U \]

Where:

- \( Y \) = Dependent variable (Farmers Cooperatives development)
- \( \beta_0 \) = Intercept
- \( \beta_1, \beta_2, \beta_3, \beta_4, \beta_5 \) = Vectors of estimated coefficient of the explanatory variables
- \( X_1 \) = Understanding Responsibility
- \( X_2 \) = Cooperatives knowledge and skills
- \( X_3 \) = Training and Education
- \( X_4 \) = Member participation
- \( X_5 \) = Accessing Information
- \( X_6 \) = Disloyalty and Conflicts
- \( X_7 \) = Product value Additions
- \( X_8 \) = Business Contract
- \( X_9 \) = Strategic plan
- \( U \) = Basket of remaining variables and errors linked to usage of data (error term).

5. Results and Discussion

5.1 Demographic characteristics of cooperative members

As shown in Table 1 below, 63.8% of cooperatives members were female while 36.2% were male. The larger proportion of female participation in collective action than men is because of women play essential part in agricultural production as subsistence farmer, cash crop growers, food processors and livestock owners. Another reason is that majority of the women were engaged in farming activities while men as a head of the household, engaged in another activities. This result is similar to [16], which reveal that in Rwanda the proportion of female members in agricultural cooperatives is higher than males. In addition, Table 1 shows that 4.8% were in the age group less than 30 years, 13.3% were in the age between 30 to 39 years while 51.4% were in the age above 49 years, which implies minimum participation of youth in agricultural cooperatives. These findings support the [6] by the Ministry of Agriculture of Zanzibar, which found that the current proportion of youth engaged in agriculture activities is very low. The reason behind is that majority of the youth prefer off farm activities which generate immediate effect. Another reason is that young people are pursuing their studies.

Among interviewed respondents, 15.2% were illiterate; 60.9% attained middle school qualification and only 4.8% have college level of education. It strongly contradicts with the result of [17], found that there is high literacy rate of vegetables farmer in Unguja Island. The reason explained by the fact that most of educated farmers are not interested in joining agricultural cooperatives, and instead employed in other sectors. [16] found similar results in Rwanda, that
agricultural cooperatives are constrained by low level of member education.

5.2 Demographic characteristics of cooperative leaders

As shown in Table 2 below proportion of male leaders is higher than female leaders, it implies that there is less participation of women over control of their resources. This explained by the cultural belief that women are obligated to domestic work. Men leadership is also common in another part of Tanzania mainland as reported by [18] that it is difficult for women to take a leadership position in agricultural cooperatives, due to cultural and local norms. Among interviewed respondents, 20% attained primary school, 70% attained middle school and only 6.7% attained college education. This implies that majority of leaders lack knowledge of leadership skills.

5.3 Social Factors Affecting Farmer Cooperatives

Present study includes the following attribute of social factors, which are member’s knowledge and skills and cooperatives governance and leadership. A multiple regression analysis used to test if social factors significantly predicted farmer cooperative development.

5.3.1 Member’s knowledge and skills

The results of the regression analysis indicate that member’s knowledge and skills variables explained 10.1% of the variance, F (3,101) = 3.799, p = 0.013). Table 3 shows that training and education had significant influence on farmer cooperative development, despite efforts made by the Cooperatives Department and Ministry of Agricultural in service provision. A numbers of cooperatives receiving training is of minimum, as argued by other member that, “I have got no chance of attending any training”. Poor provision of training is due to insufficient training materials and less numbers of cooperatives officers. The result is similar to [2] who found that the Cooperatives Department of Unguja is constrained by lack of technical staff, and working gear. Effects of training in cooperatives development were also identified in previous study [A. Hussein, 2010; (12), [19], A. Paulo, and R. Gratian [13] 2008] found that number of training attended, and quality of programs offered have profound effect on the success of cooperatives development.

5.3.2 Cooperative Governance and Leadership

The results of the regression analysis indicate that governance and leadership variables explained 35.2% of the variance, F (3,101) = 11307, p < 0.001). Table 4 below shows that disloyalty and conflicts had a negative and significant influence on development of farmer cooperatives. The factors that contributed to this includes poor management of cooperatives funds, mistrust between leaders and members, poor financial contribution of cooperatives members, difficult in loan refund, corruption and mismanagement of cooperatives money. This finding is consistency with [20]-[22], suggests that most farmer cooperatives in Africa have failed because of problem in holding administration accountable to members, leading to financial irregularities, conflicts and mistrust within cooperatives. Furthermore [23] found that, failure of California Rice Growers Association was caused by leadership collapse to supervise management, and lack of understanding of proper financial transactions.
5.4 Economic factors influencing farmer cooperatives

The results of the regression analysis indicate that economic variables explained 85.6% of the variance, F (3, 26) = 51.323, p < 0.001). Table 5 below shows that strategic planning had a negative and significant influence on development of farmer cooperatives. This situation leads them to hire external planners, which acquire extra cost and may affect the long-term objectives of the cooperatives. The findings are consistency with that of [20], [16], which asserts that majority of cooperative leaders lack appropriate knowledge of strategic planning. This hinders an opportunity for them to develop action programs, essential for remarkable development change. [24] Study on the success factors of cooperative development in Malaysia reveals that, it is important for cooperatives to have adequate planning and encourage participation of members in administration.

Table 5 also shows that business contract had a negative and significant influence on farmer cooperative development (B = -5.996, p = 0.002), which implies that majority of farmer cooperatives sell their product based on the word of mouth and trust, as a consequence limiting their market bases. Poor enforcement of contract creates insecurity within the marketing system and brings opportunistic behavior on the part of buyer. [25] revealed that absence of contract make private traders to announce higher prices but effectively pay lower prices, as a result farmer income reduces.

Furthermore, Table 5 indicates that product value addition shows a negative coefficient and significantly influences farmer cooperative development (B = -2.809, p = 0.095), which implies that there is a lack of product value addition within a farmer cooperatives. The factor that contribute to this include poor technical and storage facilities and inadequacy of creativity and entrepreneurship skills. This result supports a report by Zanzibar Ministry of Agriculture [6], which found that agricultural sector in Zanzibar is constrained by lack of value addition in agriculture commodities such as fruits and vegetables, which hinder it is export significance and potentials.

5.4.1 Production Capacity of Cooperatives

Figure 1 below shows that majority of cooperatives produce less than one tonne of agricultural production. This result supports report of [6], which contend that, agricultural sector in Zanzibar characterized by small-scale farmers with low level of productivity. The factors that contributed to this include, low level of input used, such as lack of improved planting materials, (seeds, pesticides, and fertilizers) limited knowledge on improved production technology, and weak support services (research extension and credit). Consequence of low productivity is that a cooperative fail to benefits from transactions cost and gather maximum economic of scale, and strongly affect their development. [8] conducted a study on dairy and coffee cooperatives in central province of Kenya and found that, successful cooperatives are those which had more members and handling large volume of produce.

** Table 4: Regression analysis of cooperative governance and leadership**

<table>
<thead>
<tr>
<th>Explanatory variable</th>
<th>B</th>
<th>SE (B)</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member participation in election</td>
<td>-1.152</td>
<td>6.902</td>
<td>-0.167</td>
<td>0.868</td>
</tr>
<tr>
<td>Accessing Information</td>
<td>1.415</td>
<td>10.201</td>
<td>0.139</td>
<td>0.890</td>
</tr>
<tr>
<td>Disloyalty and Conflicts</td>
<td>-37.612</td>
<td>5.086</td>
<td>-7.395</td>
<td>0.001**</td>
</tr>
<tr>
<td>Constant</td>
<td>65.899</td>
<td>10.085</td>
<td>6.534</td>
<td>0.001</td>
</tr>
<tr>
<td>R²</td>
<td>35.2%</td>
<td>0.001**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-ratio</td>
<td>18.307</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Table 5: Regression Analysis of Economic factors**

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>B</th>
<th>SE(B)</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product value addition</td>
<td>-2.809</td>
<td>1.623</td>
<td>-1.731</td>
<td>0.095*</td>
</tr>
<tr>
<td>Business contract</td>
<td>-5.996</td>
<td>1.700</td>
<td>-3.527</td>
<td>0.002**</td>
</tr>
<tr>
<td>Strategic plan</td>
<td>-9.996</td>
<td>1.700</td>
<td>-5.880</td>
<td>0.001**</td>
</tr>
<tr>
<td>Constant</td>
<td>23.554</td>
<td>0.924</td>
<td>25.4495</td>
<td>0.001</td>
</tr>
<tr>
<td>R²</td>
<td>85.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-ratio</td>
<td>51.323</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p-value</td>
<td>0.001**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 5**

| Observations | 29 |

*Significant at 10% level of Significance & ** Significant at 1% level of significance.

**Figure 2: Production Capacity of Cooperatives**

5.4.2 Marketing of Cooperatives Produce

Besides, low level of production, cooperatives also fails to strengthen their position in the marketing channels, as shown in Figure 3. Regardless of available marketing opportunities created by tourist sector, majority of cooperatives sell their product to local market and street vendors. The reasons are that products from cooperatives fail to meet demand and quality required by tourist hotel. As a result, they depend on small traders to sell their produce, and these dependencies reduce them to price takers, and handle benefit to traders. The findings are in line with the report of [18], which revealed that cooperatives have not been able to resuscitate their activities in the face of competition from well-prepared private traders. Consequently, low income earning cooperatives fail to invest in assets with long-term pay off and therefore, managers are under pressure to increase
current payments to members, which will no longer promise further development [26], [27].

5.5 Institutional factors influencing farmer cooperatives

Present study includes the following attribute of institutional factors, which are administrative system and cooperatives law and policy

5.5.1 Administrative System

The present study found that, responsibility of cooperatives vested under the Department of Cooperatives within the Ministry of Empowerment, Social Welfare, Youth, Women and Children. The mandatory area of the department includes registration of cooperative societies, facilitation of cooperative education and training, auditing, monitoring, and follow up of cooperatives societies and advise Minister on matters relating to cooperative society, particularly on external financing [3]. However, the department has less capacity to deal with available number of farmer cooperatives, due to inadequate facilities, understaffing and poor staff qualifications. The finding is similar to [2], which found that cooperatives department of Zanzibar has minimum capacity to deal with available numbers of farmers cooperatives due to insufficient facilities and working gear. Furthermore discussion with cooperative officers reveal that low level of education qualification and working equipment has made it difficult for the department to attain set objectives, arising from complaints by some cooperative members, thus there is inadequate supervision of cooperative officers, especially for those located far in the countryside. [28] found that, frequent visit by cooperative officers is important factor among Turkey agricultural cooperatives.

5.5.2 Cooperatives Law and Policy

Present study found that, cooperatives law is outdated to the pace of global cooperative movements, and is not prescriptive in terms of differentiating the nature of operation as well as relationship between labour law and cooperatives law, in such a way that is not desirable level of cooperative development.

Furthermore, study found that, government has been able to provide different incentives in collaboration with available NGOs. Among incentive provided include, financial support, improvement of irrigation system, subsidies of agricultural inputs (seeds and fertilizer), and improved agricultural techniques. However coverage of incentive is inadequate as, as consequence majority of cooperatives find difficult to generate and operate their own business, discussion with cooperatives leaders contends that, they depend on members contributions to coordinate cooperatives operation, which is not enough to manage the available expenses. Previous study found that, cooperatives income and sufficient equity before start-up are important factors for cooperatives development. [12].

6. Conclusion

The general objective of the present study was to assess factors influencing development of farmer’s cooperatives, in Unguja Island of Zanzibar. Therefore the findings of the study identify several factors includes social factors, economic factors and institutional factors and their influential effect on the development of farmers cooperatives in, as concluded below.

Lack of cooperatives training and conflicts derived within cooperatives, poor product technology and value addition, lack of knowledge and skills of strategic plan of cooperatives leaders, has negatives influences on the development of farmer’s cooperatives, and hence setbacks national effort of poverty reduction plans. In addition, low level of productivity and poor marketing channels has reluctant development of farmer cooperatives, as consequences of post-harvest lost and low income earning to farmers, and bring them difficult to invest in long-term project with valuable earning. Based on the findings and conclusion of this research work, the following recommendations are drawn.

7. Recommendations

Build up the level of youth participation in farmer cooperatives, since are very powerful vehicle for modernization of the agricultural sector. Sensitization of cooperative members on the benefits of cooperation and should be involved in cooperative activities.

Both government and non-government organizations should extend their policy support to farmer’s cooperatives at a primary stage, through providing them with information technology, production inputs and credit as a means of improving quality and quantity yield, without interfere with management operation.

Cooperatives should carry out product technology, and values addition, including of combining agricultural operation with modern agriculture, in order to reduce post-harvest loss and strengthening position in competing world marketing.

Administrative concern should improve and construct marketing channels, which will enable cooperatives to avoid loss of benefit from intermediaries.
Frequent visit and close supervision of cooperatives officers should be continuous process, in order to monitor cooperatives progress, and reduce conflicts

8. Acknowledgement

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