Analysis of Market Decentralization and Its Effects on Poverty Reduction in Smallholder Farmers: A Case of Periodic Markets in Dodoma Municipality”

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Abstract
This study aimed at analyzing periodic markets in relation to decentralization and its effects to poverty reduction and also assessing perception of farmers towards periodic market infrastructures set by local government authorities (LGAs) in three wards (Msalato, Makutupora and Hombolo) of Dodoma municipality. Two types of analysis were carried out by this study; qualitative (descriptive) analysis and quantitative analysis (binary logit analysis). A binary logit analysis examined the poverty incidence in farmers and multiple response analysis (scoring method) was used in assessing the perceptions of farmers towards periodic market infrastructures. The study fails to accept the null hypothesis because results show a perfect relationship between smallholder farmer’s characteristics and poverty reduction in decentralised markets. The probability of households being in poverty in relation to households characteristics found to be significant at p<0.1 and p<0.05. The data further show that households income generated through selling of crops and livestock in periodic markets had a positive relationship with poverty levels (β = 0.901), this implies that households which sold crops and livestock had a higher probability of not being poor.

It is the conclusion of this study that the overall functional efficiency of agricultural marketing is depended upon a comprehensive national/local marketing policy framework which recognizes the production realities and potentiality of the local economy, improvements in transport infrastructure, market information flows and marketing institutional structures are a pre-requisite for successful agricultural trade and marketing.

Keywords: Market decentralization, poverty reduction, smallholder farmers, periodic markets

1. Background Information
1.1 Introduction
Many countries around the world including Tanzania have embarked on decentralization programmes. The reasons for this include political, economic and governance considerations. In many developing countries including Tanzania the reasons centred on the need to establish working local governments which can deliver quality services to the people in a participative, effective and transparent way, where local authorities are directly accountable to the local people (WB, 2002 and IFAD, 2011).

Richard (2003) on the study “Decentralisation and Poverty Reduction in Africa” argues that, because decentralization brings government closer to the governed both spatially and institutionally, government will be more knowledgeable about and responsive to the needs of the people. This tendency to conflate decentralization with democratization and enhancement of participation at the ‘community’ level underlies the belief that decentralization will lead to greater responsiveness to the ‘poor’. In so far as the majority of the population in developing countries including Tanzania is both poor and excluded from elite politics, any scheme that appears to offer greater political participation to ordinary citizens seems likely to increase their ‘voice’ and hence (it is hoped) the relevance and effectiveness of government’s policy.

Enters et al. (2000) shows that, the trend to decentralize is driven by a pushing and pulling factors, including efforts frequently needed to reduce central bureaucracies and cut budgets, increased economic liberalization and market orientation. There are several barriers that might cause local markets to be less responsive to economic signals arising from external markets.

Karamchandani et al. (2009) on the study “Emerging markets: Emerging Models” identified that a successful market-based approach would bring significant new private sector resources into play, allowing development assistance to be more targeted to the segments and sectors for which no viable market solutions can presently be found. They identified the differences between a market-based approach to poverty reduction and more traditional approaches. Traditional approaches often focus on the very poor, proceeding from the assumption that they are unable to help themselves and thus need charity or public assistance. A market-based approach starts from the recognition that being poor does not eliminate commerce and market processes: virtually all poor households’ trade cash or labour to meet much of their basic needs.

McMullen (2011) also shows that market-based approach focuses on people as consumers and producers and on solutions that can make markets more efficient, competitive, and inclusive. The market-based approaches see market failures such as inertia or ignorance, prejudice and lack of financial capital of
entrepreneurs as the reason firms are currently not serving the poor and consequently as the ultimate cause of global poverty.

1.2 Problem Statement and Justification
Lack of access to the market and poor spatial-temporal integration of the marketing space present one of the most serious drawbacks in Tanzania's economic development. The rural market centres of this nation are fundamentally built on a periodic marketing system and hence hold the key to local, regional and national articulation of exchange processes. The development of internal trading and marketing systems is therefore essential for a thriving market economy in Tanzania in general and Dodoma municipality in particular. Smallholder farmers are dissatisfied of the price for farm produce and poverty prevalence among them, thus the periodic marketing system can not be ignored.

In many developing countries including Tanzania, the severely limited transportation infrastructure in rural areas significantly impacts the availability and cost of agrochemical inputs and higher quality seeds. Such infrastructure inadequacies also impair the development of sustainable agricultural input production and distribution supply chains and technical services that are needed to support smallholder adoption of farming systems. These transportation constraints also limit most farmers’ access to regional, national and international markets. Farmers’ inadequate physical access to markets is compounded by their frequent lack of information on current market prices that can negatively affect the farm gate prices that they are offered at harvest time.

The underlying assumption is that market decentralization can help avoid concentration of the rural and urban markets in a few towns and also allow greater involvement of local communities in the processes of economic development. It is of this sense, this study analysed market decentralization and its effects on poverty reduction and also assessing perception of farmers towards periodic market infrastructures set by local government authorities (LGAs) in three wards (Msalato, Makutupora and Hombolo) of Dodoma municipality. The objectives of the study were i) to examine the smallholder farmers perceptions towards periodic market infrastructures set by local government authorities (LGAs) and ii) to analyze the relationships between smallholder farmers household’s characteristics and poverty reduction in decentralized market in Dodoma municipality.

2. Methodology
2.1 Study Area
This paper is based on a study conducted in 2014 under the title “analysis of market decentralization and its effects on poverty reduction” taking periodic markets in Dodoma municipality as a case study in three wards of Msalato, Makutupora and Hombolo. The study areas were selected because they host large periodic markets in Dodoma municipality. The study used data for empirical analysis from three wards (Msalato, Makutupora and Hombolo) of Dodoma municipality. The study areas were selected because they host large periodic markets in Dodoma municipality.

2.2 Research Design
This study used a descriptive cross-sectional design. Descriptive cross-sectional survey design allows collection of information at one point in time (Casley and Kumar, 1988). The preference was to cross section survey design as opposed to longitudinal survey design which involves trend studies is the convenience of the period allocated for the study. The study was designed to identify the way in which local government authorities (LGAs) facilitate open periodic markets to provide good price to smallholder farmers households and to show how farming systems influence poverty reduction.

2.2.1 Sampling Design
This study used the data for empirical analysis collected in three wards (Msalato, Makutupora and Hombolo) of Dodoma municipality over a period of three months. The study used a sample of 279 households which was obtained by probability sampling (stratified sampling).

2.2.2 Sampling Procedure
The study employed multistage sampling, purposeful and randomly sampling techniques. The sampling procedure started with purposefully sampling (Reginard, 2013; Rwegoshora, 2006). Where one district out of seven in Dodoma region were selected. The second stage also involved purposively sampling to select three wards from the district; this was followed by random sampling to select two mitaa in each ward. The creteria for selecting the ward were based on the presence of open periodic markets. The third stage involved random selection of representative households from the selected mitaa (Reginard, 2013; Rwegoshora, 2006). Also key informants were selected purposively.

2.3 Data Collection
This study used a triangulation method whereby data from the same sample in the study area were collected
using different techniques including; households’ heads interview using questionnaires, key informant interviews, and neighbourhood observations. Documentary review also formed part of the data collection methods. Under this method various published articles related to decentralization and agricultural marketing were reviewed.

2.4 Data Analysis
The collected data were analysed qualitatively and quantitatively. The quantitative analysis examines the poverty incidence in farmers’ households using binary logistic analysis. While qualitative analysis using descriptive multi-variant analysis may stimulate more investigation on specific functional relationships by groups of assessing the perception of farmers' households towards periodic market infrastructures supported by the LGA (Dodoma municipality). In addition, Chi-square test was used to analyze categorical data.

2.5 Model Specification
Joachim and Ulrike (2000) shows on their study that, there is a strong relationship between decentralization expressed in the number of election tiers, and the (HDI) of UNDP, which aggregates per capita income, literacy and infant mortality. It can not serve as a substitute for the analysis of decentralization at a country level. Preferably this was not analyzed in cross-section but in long term time-series, capturing effects before and after increased or decreased decentralization.

To breach the gap in previous studies by Joachim and Ulrike (2000) in order to examine ‘the incidence of poverty’, this study used the poverty rate or headcount ratio (HR) instead of the HDI which is used for aggregate information of the poverty level. The equation for the households being rich or poor is expressed here under;

\[ P_0 = \frac{1}{N} \sum_{i=1}^{N} I(y_i \leq z) = \frac{N_p}{N} \]  

Basing on logit model in equation (1) \( I(.) \) is an indicator function that takes on a value of 1 if the bracketed expression is true, and 0 otherwise. If individual consumption or income, \( y_i \) is less than the poverty line, \( z \), then \( I(.) \) is equal to 1 and the individual is counted as poor. \( N_p \) is the total, urban or rural number of poor. \( N \) is the total, urban or rural population. The indicator that measures the incidence of poverty is the percentage of poor people (under the relative poverty threshold) within the total population and estimate a regression model for all indicators of poverty and use the headcount ratio or poverty rate as the dependent variable as follows; by referring to equation (1) above;

\[ (Pr_{i,t}>0) = \beta_0 + \beta_1(AG) + \beta_2(SSX) + \beta_3(HSIZE) + \beta_4(OCP) + \beta_5(MART) + \beta_6(EDUC) + \beta_7(ASTWD) + \beta_8(INC) + \beta_9(COFP) + \beta_{10}(LOFP) + \beta_{11}(CLFP) + \beta_{12}(CLOW) + \epsilon_{it} \]  

Herein the dependent variable \( Pr_{i,t} \) denotes the poverty rate. Furthermore \( \beta_0 \) is a constant, \( \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11} \) and \( \beta_{12} \) are parameter vectors and \( \epsilon_{it} \) denote distributed error terms with a mean of zero and a variance \( \sigma^2 \).

Where:
- \( AG \) = Age of household head
- \( SSX \) = Sex of household head
- \( OCP \) = Occupation of household head
- \( HSIZE \) = Household number
- \( MART \) = Marital status of household head
- \( EDUC \) = Education level of household head
- \( ASTWD \) = Assets possessed by household head
- \( INC \) = Income of household
- \( COFP \) = Crops only farming systems
- \( LOFP \) = Livestock only farming systems
- \( CLFP \) = Crop and livestock farming systems
- \( CLOW \) = Cultivated land ownership

3. Results and Discussion
3.1 Relationship Between Smallholder Farmer’s and Poverty
The first aim of this paper was to analyze the relationships between smallholder farmer’s characteristics and poverty reduction in decentralized market. To address this objective a multivariate analysis was used. The
The contribution of market decentralization on poverty reduction in the study area was assessed through the use of income earned through sale of various agricultural products including crops and livestock produced by the household in financial year (FY) 2011/12 and 2012/13 seasons in different open markets using mean and standard deviation as a test statistics as shown in Table 1.

The average poverty line in each ward were 3,250/-; 1,995/- and 1,800/- for Hombolo Makutupora and Msalato respectively. Total average for the three wards is Tshs 2,348.33 showing that households in this study are above the poverty line of 1,594 Tshs as shown in (URT, 2011) report and as stated by world bank (WB, 2002). For further analysis purpose, percentiles were used to categorize households into three equal groups with regards to their yearly income. The groups are low income (Tshs 1<500,000); Medium income (Tshs 600,000-1,500,000/-); and high income group (>1,500,000 Tshs). Therefore most households fell into middle income group, earning their income between Tshs. 600,000/- and 1,500,000/- as shown in Table 1 below.

Table 1: Mean Income of Household Heads

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Hombolo (n = 97)</th>
<th>Makutupora (n = 94)</th>
<th>Msalato (n = 88)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amont earned in FY</td>
<td>Mean income per year</td>
<td>1,278,000</td>
<td>738,000</td>
<td>666,000</td>
</tr>
<tr>
<td>2011/12</td>
<td>Standard deviation</td>
<td>1.42</td>
<td>1.34</td>
<td>1.37</td>
</tr>
<tr>
<td></td>
<td>Poverty status (Tshs)</td>
<td>3,550</td>
<td>2,050</td>
<td>1,850</td>
</tr>
<tr>
<td>Amont earned in FY</td>
<td>Mean income per year</td>
<td>1,062,000</td>
<td>698,400</td>
<td>630,000</td>
</tr>
<tr>
<td>2012/13</td>
<td>Standard deviation</td>
<td>1.32</td>
<td>1.24</td>
<td>1.33</td>
</tr>
<tr>
<td></td>
<td>Poverty status (Tshs)</td>
<td>2,950</td>
<td>1,940</td>
<td>1,750</td>
</tr>
<tr>
<td></td>
<td>Average poverty status</td>
<td>3,250</td>
<td>1,995</td>
<td>1,800</td>
</tr>
</tbody>
</table>

3.2 Binary Logistic Analysis of Households Being in Poverty

This analysis tested the following hypothesis; “there is no significance relationship between smallholder farmer’s household’s characteristics and poverty reduction in decentralised markets”. The results rejected the null hypothesis above because the data collected showed a perfect relationship between smallholder farmers characteristics and poverty reduction in a decentralised market. The probability of a household being in poverty in relation to household characteristics and farming systems was determined using a regression model.

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Table 2 presents the results of the regression analysis. The factor found to be significant were the farming systems (P<0.1), cultivated land ownership (P<0.1), asset ownership (P<0.05), occupation (P<0.1), and age of household head (P<0.1). Age of the household head is an important aspect in agriculture because it determines experience one has in a certain type of farming. In addition, to a certain extent, age indicates the position of the household in the life cycle, since coefficient of age is negative, probability of being rich decline with age (Ngqangweni and Delgado, 2003).

General analysis of the odds ratio values indicate that compared to other factors, gender, household size, crop & livestock farming system and household income have odd ratios values greater than one (OR>1) and positive relationship with dependent variable (whether household is rich or not). The higher the odds ratio values, the higher the probability that particular factor to change as a result of changing the magnitude of independent factor by one unit. The odds ratio associated with age, marital status, education level, occupation, cultivated land ownership and asset ownership are all less than one (OR<1) and have a negative relationship with dependent variable. This implies that the changes in time have influences in reducing household from income poverty.

The data further show that household’s income generated through selling of crops and livestock had a positive relationship with poverty levels. This implies that households which sold crops had a higher probability of not being poor. While farming systems pose challenges and opportunities for farmers, they are not the only factors which are responsible for poverty. Other factors such as the condition of infrastructure (especially roads) and access to extension services, capital and markets play a very big role in influencing the magnitude of poverty incidence. In areas where these factors are poor it is likely that poverty levels will be higher.

Also availability of agricultural related assets influences production and marketing decisions among smallholder farmers (Stroebel, 2004). That is, farmers who own farming related assets are more likely to produce and market their produce than those who lack assets. In addition to that land was found to have significant effect because is one of the important farming resources in all farming systems. Land provides the area for cultivation of crops, grazing and collection of other resources such as firewood, fruits and roots. Thus, availability and accessibility to land is crucial to farmers’ livelihoods.

The sex of household head was found to have insignificant effect although farming in Dodoma municipal is practised by both males and females, although the choice of farming type differs with sex and gender. A large number of females in livestock farming can be explained by day-to-day animal supervision by females where men move to cities/towns in search for jobs. The results on livestock farming substantive
Montshwe (2006), who pointed out that livestock are generally owned by men, even if they are not involved in the daily supervision of the animals. Also marital status of household head was found to have insignificant effect but marital status of households is usually used to determine the stability of a household in African families and Tanzania in particular. It is normally believed that married household heads tend to be more stable in farming activities than unmarried heads as shown in Table 2.

Household size was found to have insignificant effect but have an influence on marketing since they affect consumption and production (Randela, 2005). A larger household size discourages selling because the household needs to provide for household consumption before making selling decisions. The study also shows that education of household head was found to have insignificant effect but the households’ head with higher educational levels are more able to interpret information than those who have less education or no education at all (Adelzadeh et al. 1998). Thus, education levels affect market information interpretation and hence, market participation level of farmers.

Table 2: Binary Logistic Analysis of Households being in Poverty

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>B</th>
<th>Std. Error</th>
<th>Wald</th>
<th>Df</th>
<th>Sig.</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.011</td>
<td>1.022</td>
<td>3.874</td>
<td>1</td>
<td>0.049</td>
<td>7.471</td>
</tr>
<tr>
<td>Age of household head</td>
<td>-0.641</td>
<td>0.272</td>
<td>5.541</td>
<td>1</td>
<td>0.019</td>
<td>0.527 **</td>
</tr>
<tr>
<td>Sex of household head</td>
<td>0.406</td>
<td>0.354</td>
<td>1.315</td>
<td>1</td>
<td>0.251</td>
<td>1.501</td>
</tr>
<tr>
<td>Marital status</td>
<td>-0.339</td>
<td>0.345</td>
<td>0.969</td>
<td>1</td>
<td>0.325</td>
<td>0.712</td>
</tr>
<tr>
<td>Size of the household</td>
<td>0.223</td>
<td>0.299</td>
<td>0.557</td>
<td>1</td>
<td>0.455</td>
<td>1.250</td>
</tr>
<tr>
<td>Education of household head</td>
<td>-0.507</td>
<td>0.623</td>
<td>0.663</td>
<td>1</td>
<td>0.415</td>
<td>0.602</td>
</tr>
<tr>
<td>Occupation of household head</td>
<td>-0.926</td>
<td>0.358</td>
<td>6.671</td>
<td>1</td>
<td>0.010</td>
<td>0.396 **</td>
</tr>
<tr>
<td>Crop and livestock farming systems</td>
<td>0.901</td>
<td>0.351</td>
<td>6.597</td>
<td>1</td>
<td>0.010</td>
<td>2.462 **</td>
</tr>
<tr>
<td>Household income</td>
<td>0.497</td>
<td>0.606</td>
<td>0.672</td>
<td>1</td>
<td>0.412</td>
<td>1.643</td>
</tr>
<tr>
<td>Asset owned by household</td>
<td>-0.993</td>
<td>0.485</td>
<td>4.190</td>
<td>1</td>
<td>0.041</td>
<td>0.371 *</td>
</tr>
<tr>
<td>Cultivated land ownership</td>
<td>-1.310</td>
<td>0.377</td>
<td>12.065</td>
<td>1</td>
<td>0.001</td>
<td>0.270 **</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Whether a household is poor or rich
b. ** and * indicate significance at 1% and 5% respectively

The study also shows that the decentralization process is more likely to have a positive effect on poverty if the central and local government are committed to the purpose of decentralization, the involved actors have the capacity (financial and human) to participate in decision making, checks and balances are established at local level to control for rent-seeking and corruption, and policies internal and external are sufficiently coherent with the decentralization policy.

3.3 Farmers’ perception towards periodic market infrastructures

The second aim of this paper was to examine the farmers perceptions towards periodic market infrastructures set by local government authorities. To address this, a multiple analysis was used. Most farmers in the study area perceived that rural poverty is often a product of poor infrastructure that hinders development and mobility.

Rural areas tend to lack sufficient road networks that would increase access to agricultural inputs and markets. Without roads, the rural poor are cut off from technological development and emerging markets in more urban areas. Poor infrastructure hinders communication, resulting in social isolation among the rural poor, many of whom have limited access to media and news outlets. Such isolation hinders integration with urban society and established markets, which could result in greater development and economic security (Sivanapppan, 2000).
Table 3: Evaluation of farmers’ perception towards periodic markets

<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Hombolo (n = 97)</th>
<th>Makutupora (n = 94)</th>
<th>Msalato (n = 88)</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure i.e. roads, market sheds and toilets</td>
<td>No</td>
<td>29.9</td>
<td>38.3</td>
<td>40.9</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>70.1</td>
<td>61.7</td>
<td>59.1</td>
</tr>
<tr>
<td>Transparent and accountability</td>
<td>No</td>
<td>45.4</td>
<td>43.6</td>
<td>37.5</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>54.6</td>
<td>56.4</td>
<td>62.5</td>
</tr>
<tr>
<td>Security</td>
<td>No</td>
<td>56.7</td>
<td>47.9</td>
<td>46.6</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>43.3</td>
<td>52.1</td>
<td>53.4</td>
</tr>
</tbody>
</table>

Mostly qualitative evidence including Sivanappan (2000), Johnson (2000), Vaswani et al. (2003) and Ramkishen (2004) suggests that infrastructures especially rural road construction or maintenance has a positive impact on public service delivery. In general rural road development leads to improved access of both users and suppliers. This occurs due to a reduction in commuting time, as well transport costs but these benefits tend to accrue disproportionately to the influential and well-educated as shown by Bachmann and Earles (2000). Rural communities tend to ascribe great importance to road development and perceive it to improve access to markets, health and education facilities. Table 3 shows the results on evaluation of farmers’ perceptions towards periodic markets infrastructures set by LGA in Hombolo, Makutupora and Msalato wards. Infrastructure i.e. roads and transparent and accountability scored high for both households in all wards this implies that transportation to the periodic markets was accessible and transparent and accountability in all periodic markets was administered.

While infrastructure i.e. roads, market sheds, roads and transparency and accountability were fairly administered in all periodic markets in the study, it shows that the contribution of Dodoma Municipal Council was minimal in provision of infrastructures in the periodic markets as the results shown in Table 3 below.

4. Conclusion and Recommendation

4.1 Conclusion

Household’s income generated through selling of crops and livestock had a positive relationship with poverty levels. This shows that households who sold crops and livestock had a higher probability of not being poor. Other factors such as the condition of infrastructure (especially roads) and access to extension services, capital and markets play a very big role in influencing the magnitude of poverty incidence. In areas where these factors are poor it is likely that poverty levels will be higher.

Farmers’ perception towards periodic markets infrastructures set by LGA in the study area revealed that security and transport scored high for both households in all wards this implies that transportation to the periodic markets was accessible and security in all periodic markets was administered. While market sheds, toilets, piped water and transparency and accountability were fairly administered in all periodic markets in the study. The contribution of Dodoma Municipal Council was minimal in provision of infrastructures in the periodic markets.

4.2 Recommendations

With regard to smallholder farmers households; this section gives a series of options that can be considered in United Republic of Tanzania and other development partners, in an effort to help smallholder farmers households reach their full potential and improve their livelihood.

4.2.1 Encourage collective action through formation of producer organization

Literature has revealed that agricultural produce are being distributed through organized marketing channels, away from spot markets. On the other hand, the study has shown that smallholder farmer’s households have problems in accessing the formal markets individually, partly because of relatively small marketable surpluses, high transaction costs and problems in meeting grades and standards. Given such information, it is important to establish the suitability of collective action as an institutional vehicle for linking smallholder farmers to agribusiness supply chains.

4.2.2 Ensure the availability of market information to smallholder farmers

Access to timely market information is still a problem among the smallholder farmers. As such, market information should be consistently supplied to the farmers through the help of both private and governmental organizations. In an effort to make information available, it is important to know the types of market information that is necessary for different markets, such as specific rules, pricing, grades and standards; and educate farmers on how to use the information. Of equal importance, is devising the ways of disseminating the information, in order to reach all the smallholder farmers. When devising these ways, it is important to consider the non-homogeneity of smallholder farmers in terms of education, location and the availability of communication assets. Radio programs conducted in different languages and farmer workshops can be
considered for information dissemination.

4.2.3 Promote contract farming
Contract farming is important to both the farmers and the contractors because it ensures a market for produce and supplies to the contractors. However, to get contractual deals, farmers should be able to provide a relatively larger output. When smallholder farmers operate in producer groups, they may be able to increase their output and be part of the contractual deals. The public and private sectors can help facilitate contractual arrangements, but the farmers have to be willing to cooperate.

4.2.4 Encourage value adding
The smallholder farmers in this study indicated that they do not know the importance of value addition, which is the reason why they are not involved in such systems. Therefore, knowledge related to value adding should be disseminated to farmers, because value adding can open up opportunities and increase the farmers’ profitability. It is important for the farmers, the private and public sectors to develop and initiate value adding systems among the smallholder farmers. Systems that do not need a lot of capital like packaging, cutting and drying can be considered by the farmers without outside help. The private and public sector can assist with educating the farmers about value adding and provide financial assistance for the systems that require larger capital commitments.

4.2.5 Invest in rural infrastructure
The government can support smallholder farmers through technical innovations. These may be in the form of investments in public facilities such as improved roads, telecommunications and market places. Development of such facilities can induce farmers to move towards a commercial agriculture system. The smallholder farmers still have to play a role in order to ensure that the infrastructure facilities are provided for them. They have to form an association and choose a lobby that has to represent them.

4.2.6 Stimulate government support policies in the rural areas
The smallholder farmers in Tanzania are facing unfair competition from the formerly supported commercial farmers. In addition, they are facing competition from internationally imported produce. For example, cheaper produce, due to subsidy policies in developed countries is imported into Tanzania. In order to withstand both local and international competition, the Tanzania government needs to consider support policies and regulation that are necessary to stimulate growth among the smallholder and emerging farmers.

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Department of Environment and Natural Resources/Forest Management Bureau Natural /Forest Management Bureau (DENR/FMB) of Phillipines.
University of Pretoria, Pretoria.

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