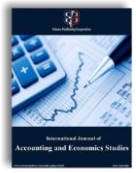
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Research paper



Enhancing rural livelihoods in Tanzania : A small-holder farmers' perspective

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Abstract

Poverty reduction has been a difficult milestone for Tanzania to achieve despite recording remarkable economic growth over the past decade. This is because the attained growth is not inclusive, in that sectors contributing to this growth employ fewer people. Given the fact that agriculture continues to employ the majority of people in Tanzania, efforts to improve livelihoods should necessarily be geared towards transforming the sector. It is in this context that using a sample of 3,000 farmers from 13 regions of Tanzania; this Tanzania, this study set out to examine challenges facing farmers and their respective solutions following the sustainable livelihood framework. Findings show that improving farmers' livelihoods would entail concerted efforts by the government to avail to farmers, quality and affordable seeds, fertilizer, agricultural infrastructures, subsidies, extension services, markets, information alert, affordable loans, and areas for pastures. This implies that the government needs to allocate enough funds to the agricultural sector if farmers' needs are to be met. We note, however, that government's allocation to the sector has alarmingly generally been exhibiting a declining trend for the past four years. It is against this background that we strongly recommend that the government rethinks its position and prioritize the agricultural sector in its budget.

Keywords: *Agriculture; Rural Livelihoods; Smallholder Farmer; Sustainable Development; Poverty.*

1. Introduction

It is a well-documented fact that there has not been significant success in poverty reduction in Tanzania despite more than a decade of sustained GDP growth (ADB, 2006). Indeed even if GDP growth has averaged 7% in the last decade, the majority of Tanzanians, particularly those living in rural areas are still living in poverty (Osberg and Bandara, 2012). According to the Government of the United Republic of Tanzania (2015), agriculture is the source of economic livelihood for 66.3% of the population in Tanzania. While poverty is still very much a rural phenomenon, it is important to note that the majority of the poor small-scale farming. It,therefore,small scale farming. It therefore follows that any effort to transform livelihoods of the poor in Tanzania should necessarily involve transforming the agricultural sector particularly small scale farming.

It is important to note that historically, the rate of growth in productivity of agriculture has largely determined the differences in poverty reduction levels across the word (DFID, 2004). Indeed while Asia's productivity gains from the green revolution are credited for increased farmers' and labors' incomes and wages respectively as well as lowering the price of food making it affordable to the poor in the region, stagnation in agricultural productivity is blamed for absolute poverty levels in Sub-Saharan Africa (DFID, 2004). Unfortunately, productivity (the ratio of physical output over the physical factor input) in Tanzania's agricultural sector has not been impressive over the years. For instance, when industry and service sectors grew at almost 13% in the period, 2001-2007 agricultural sector recorded a meager growth of 4.5% annually, an amount that is inadequate as far as raising the living standards of the poor is concerned (Osberg and Bandara, 2012).

The plight of the agricultural sector in Tanzania can be partly explained by the fact that the sector is still very much underdeveloped. For instance, the area under irrigation in Tanzania is less than 10% of the potential and the rate of investment in irrigation infrastructure, is still very low, just to mention but a few challenges facing small holder farmers (URT, 2016). This makes small holder farmers very vulnerable to various shocks such as climate change (Ibid).

It is not surprising then that agricultural sector contribution towards the growth and development of the economy has stagnated. Indeed, while in 2015, for example, agricultural sector contributed 29% of the GDP, it contributed 28.8% in 2014 (Deloitte, 2016). It is important to note at this juncture that most of Tanzanians that depend on agriculture for their livelihoods are small holder farmers. Typically, these types of farmers own small pieces of land in which they normally cultivate crops for subsistence only and in most cases their agricultural activities are rain fed. Besides, they usually use rudimentary technology which makes their productivity extremely low.

It follows then that in order to enhance livelihoods of the majority of Tanzanians, there is a need to finding ways to transform small-scale farming. Understanding obstacles towards improving livelihoods of small holder farmers is thus of paramount importance. Note, however, that studies on rural livelihoods of small holder farmers in Tanzania (e.g. Bengtsson and Klerfelt, 2014; Msangya

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and Yihuan, 2016; Anderson et al., 2016) have been few and quite wanting in terms of redressing constraints that face the farmers in question. Indeed, while studies by Msangya and Yihuan (2016) and Bengtsson and Klerfelt (2014) employed samples that are too small to generalize their findings, the ones with adequate samples such as that of Anderson et al. (2016) dwelt squarely on narrow focus, that is financial and digital issues thereby, excluding a whole range of possible list of challenges that small holder farmers may be facing. It is in this context that this study is intended to fill the knowledge gap by interrogating a large and very diverse number of small holder farmers so as to understand challenges they face and ultimately identify remedial measures that can be applied to improve their livelihoods.

The present section has introduced the study by highlighting the context of small holder farming in Tanzania and why it is crucial that constraints facing farmers are examined. The rest of the paper is organized as follows: Section 2 presents the theoretical framework which highlights a framework towards sustainable livelihood for small holder farmers. Section 3 provides a methodology that has been used in this study to examine the topic at hand. Section 4 presents findings and discussions of the study and thereafter conclusions and recommendations are shared in section 5.

2. Theoretical framework

Livelihood perspectives have been central in trying to explain how rural development can be achieved for decades. Indeed, there have been a number of studies (e.g., Lipton & Moore, 1972; Farmer, 1977; Long, 1984; Moock, 1986) whose analytical approach was informed by livelihood discourse. This discourse was later to be known as sustainable livelihood in development discipline (Bennett, 2010).

Sustainable livelihood approach is shaped through people-centred techniques to development which emerged as a result of perceived inadequacies that can be found in top-down, bureaucratic, market-oriented approaches to development discourse of the 1950s-1970s (see Chambers, 1984, 1987, 1997; Scoones, 1998). It entails the analysis of poverty from the perspective of the poor.

Livelihood approach as is in its current form is often traced to a seminal paper by Robert Chambers and Gordon Conway in 1992, which centred sustainable livelihood in people-oriented approaches to development in the context of environmental and social sustainability. Shifting away from a previously narrow definition of poverty which focused on production, employment and poverty line, Chambers and Conway (1992) went as far as incorporating Sen's (1984; 1987) capabilities ideas as well as Swift's (1989) equality and sustainability principles. To this end they argued that: "A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living; a livelihood is sustainable, which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the long-term" (Chambers and Conway, 1992 pp. 7).

2.1. Sustainable livelihood approach

Note however that the United Kingdom`s Department for International Development (DFID) has provided the most cited definition of sustainable livelihood (Carney, 1998; DFID, 1999). Originating from the earlier Chambers and Conway definition (1992), the DFID description of sustainable livelihood added the natural resource dimension so that the definition became:

"Capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Carney, 1998, p. 4).

Together with the above definition, the DFID proposed a widely used framework for analyzing sustainable livelihoods which can be seen in Figure 1 below.

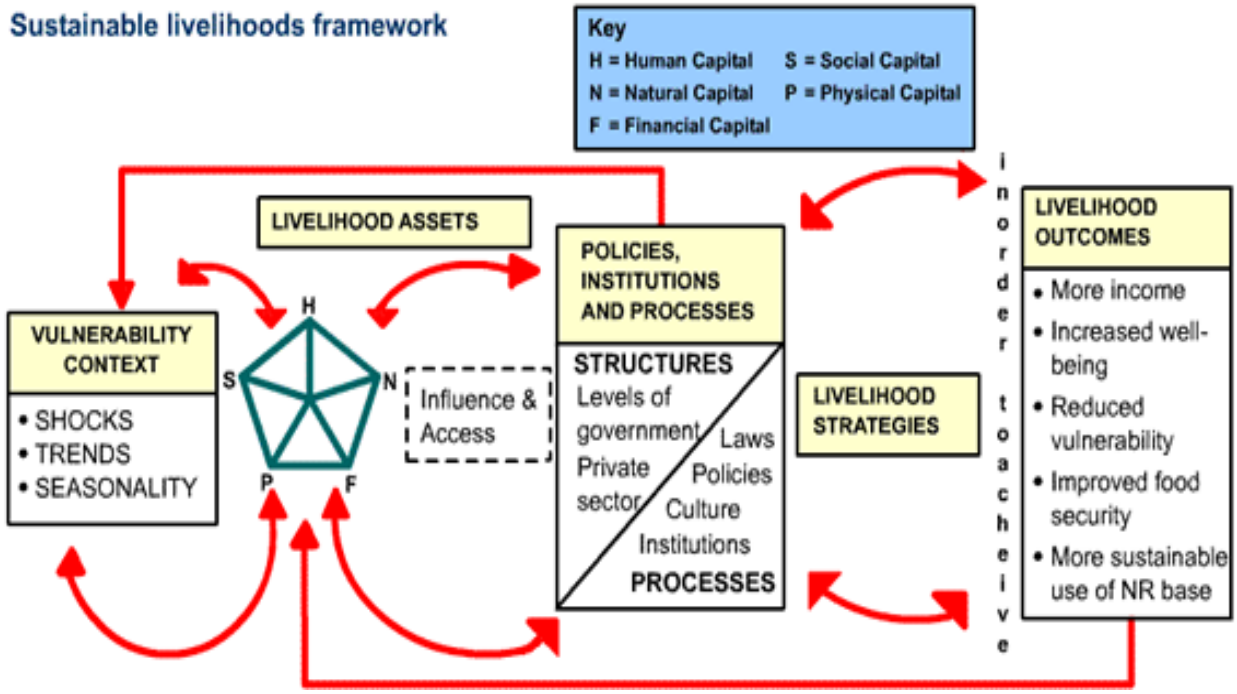


Fig. 1: Sustainable Livelihood Framework.

Source: DFID's Sustainable Livelihoods Framework (adapted from Carney, 1998).

As Figure 1 above shows, the sustainable livelihood framework suggests that there are a number of factors that impact on livelihood strategies and outcomes. It also shows relationships between these factors. Importantly, a pentagon at the centre of framework shows five interchangeable capital assets (i.e., natural, social, physical, financial, and human capitals; see Table 1 for elaborations) which can be employed to garner self-determined outcomes

of livelihood strategies to reduce vulnerability of households and communities to shocks, trends, and seasonality.

Table 1: Capital Assets

Capital Assets	
Natural Capital	Natural resource stocks from which resource flows useful for livelihoods are derived (e.g., land, water, wildlife, biodiversity, environmental resources).
Social Capital	Social resources (networks, membership of groups, relationships of trust, access to wider institutions of society) upon which people draw in pursuit of livelihoods.
Human Capital	Skills, knowledge, ability to labour and good health important to the ability to pursue different livelihood strategies.
Physical Capital	Basic infrastructure (transport, shelter, water, energy, and communications) and the production equipment and means which enable people to pursue their livelihoods.
Financial Capital	Financial resources which are available to people (whether savings, supplies of credit or regular remittances or pensions) and which provide them with different livelihood options.

Source: Adapted from Scoones, 1998; in Carney, 1998, p. 7

In other words, the sustainable livelihood framework shows how vulnerability to shocks, trends and seasonality of small holder farmers can be surmounted in the presence of five (or six when adding political capital as it has been the case most recently) capitals, including influence and access to resources and services in the context of existing structures and processes that pave a way for livelihood strategies leading to various livelihood outcomes. Indeed, access to capitals by small holder farmers is mediated by structures (i.e., levels of government, private sector, civil society) and processes (i.e., laws, policies, culture, institutions, power relations), which are also perceived to be contributing factors to the vulnerability of livelihoods.

In the end, sustainability livelihood approach is comprised of six core principles namely, people-centredness, dynamism, inclusivity, building on strengths, emphasizing micro-macro links, and sustainability (Bennett, 2010). As a result of critiques and discussions, the sustainable livelihood framework has grown to include issues pertaining to empowerment, responsiveness and participation, disaggregation etc. (i.e., by gender, household, socio-economic status, race), flexibility (Carney, 2003).

3. Methodology

This study used descriptive and cross-sectional design and relied on a mixed methods methodology. In order to undertake this study, a purposive sampling technique was used to collect primary data using a structured questionnaire in 2016. The sample size of 3,000 small holder farmers was selected from 13 regions in Tanzania (see Figure 2) out of which a total of 2,957 small scale farmers were able to complete the questionnaire. Specifically, respondents were drawn from the following regions: Dodoma (16.10%), Northern Unguja (13%), Manyara (8.89%), Singida (11.33%), Mtwara (4.46%), Southern Unguja (0.44%), Njombe (3.89%), Shinyanga (9.78%), Rukwa (7.88%), Tanga (11.67%), Morogoro (5.24%), Mwanza (6.66%) and Mjini Magharibi (0.54%). Regions were selected based on the presence of agricultural program interventions by actors that include Policy Forum (PF), ActionAid, Tanzania Gender Networking Programme (TGNP), Agricultural Non State Actors Forum (ANSAF) as well as Oxfam's Female Food Heroes program.

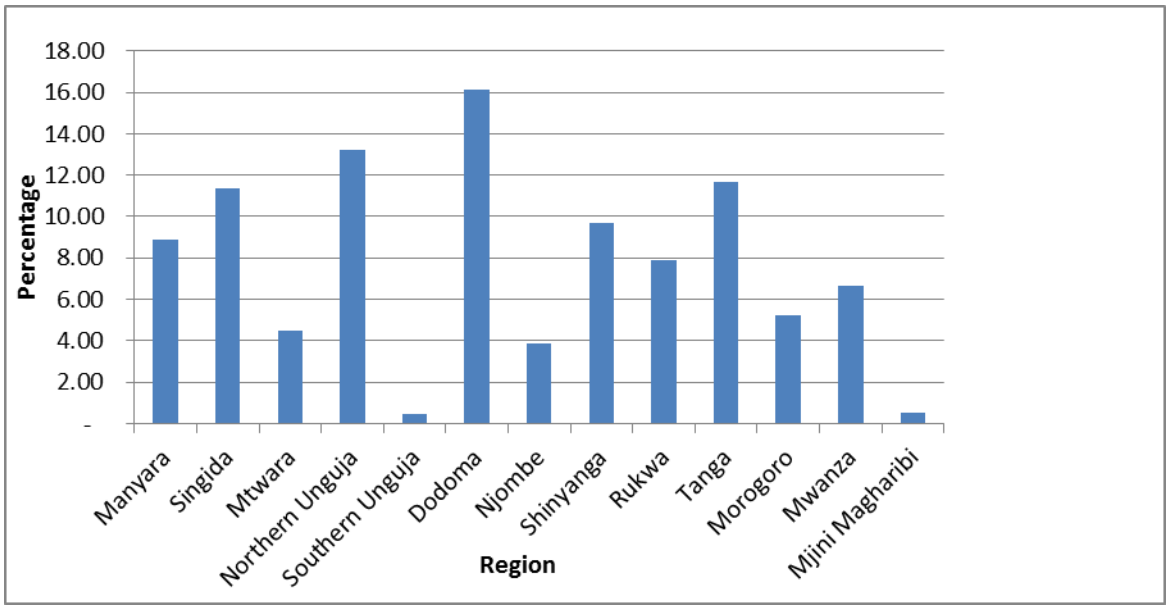


Fig. 2: Sampled Regions (Size).

Both quantitative and qualitative data were collected using structured questionnaires. Questions covered areas that included demographic characteristics of the respondent, types of crops and animals farmers kept; challenges faced; priority areas if productivity is to be raised; government budget on agricultural sector and knowledge about it; as well as the availability of relevant agricultural extension services and infrastructure.

As the sustainable livelihood framework proposes, this study was undertaken with people in mind. Subsequently, the analysis of data was done by gauging perspectives of small holder farmers (see Chambers, 1984, 1987, 1997; Scoones, 1998). Collected data was then summarized and analyzed by using Ms Excel (2007), Software Package for Social Scientist (SPSS) and STATA. The research findings were thereafter organized and presented in form of frequencies, Percentage, tables, histograms and charts.

4. Findings and discussion

4.1. Individual characteristics of respondents

In summary, 47% of respondents were male and 53% were female (see Table 2). This is roughly consistent with the 2012 population census data which puts female at a slightly higher number, 51% than that of their male counterparts that is 49% (URT, 2013). Also individuals who are aged 44 or below constituted 58% of respondents (see Table 2) in line with the national census 2012 statistics which shows the population of Tanzania is highly youthful. It should also be noted that with the exception of age categories 18-24 and 55 or above, small holder women are consistently more than their male counterparts.

Furthermore, results show that regardless of gender, 78% of the respondents are married, 10% are widowed, 8% are single and 4% have separated (see Table 3). This data also revealed that all age group comprises of more people in marriage except age group of 18-24 which had many single respondents. As expected, the age group 55 and above had no individual who were single but with many widows (22%) in line with Tanzania's life expectancy which stands at 66.

Perhaps alarmingly, the data shows that 58% of respondents have four or more children (see Table 4). This result fits well with the National Bureau of Statistics (2017) data that puts birth rate at 5.2 children per woman (NBS, 2017). While this number is also consistent with Sub-Saharan average birth rate of 4.7, it is way above the world average which stands at 2.7 children and sets to decline to 2.4 according to the United Nations Development Program (2015).

Finally the education level of respondents is generally low with up to 67% of them possessing the maximum of primary education (see Figure 3). This is slightly higher than what was reported in the Integrated Labour Force Survey (2014) which placed the number at 61.3% Tanzania wide. Only 2.3% of respondents possessed college, 3.1% being male and 1.6% female. It can be seen that women being in a disadvantaged position in terms of a very important poverty indicator. There is thus a need to institute women-specific economic empowerment programs to reverse this situation. That said, the general low level of education among respondents can impact negatively their daily activities they perform. Indeed as Nkamleu and Manyong (2005) put it, education is crucial in facilitating learning and in enabling farmers to use improved farm practices.

Table 2: The Distribution of Respondent by Age and Sex

Age group	Number		%		Total	
	Male	Female	Male	Female	Number	%
18-24	139	120	53.67	46.33	259	100
25-34	295	354	45.45	54.55	649	100
35-44	347	454	43.32	56.68	801	100
45-54	331	394	45.66	54.34	725	100
55+	287	236	54.88	45.12	523	100
Total	1,399	1,558	47.31	52.69	2,957	100

Table 3: The Distribution of Respondent by Age and Marital Status

Age group	Single		Married		Widow		Separated		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
18-24	137	53.31	106	41.25	11	4.28	3	1.17	257	100
25-34	74	11.44	517	79.91	34	5.26	22	3.4	647	100
35-44	11	1.38	692	86.50	54	6.75	43	5.38	800	100
45-54	11	1.52	592	81.88	86	11.89	34	4.7	723	100
55+	0	0.00	386	73.80	116	22.18	21	4.02	523	100
Total	233	7.9	2,293	77.73	301	10.2	123	4.17	2,950	100

Table 4: Number of Children per Respondent

Children	Number	%
No child	228	7.87
1-3 Children	975	33.66
4-6 children	1,085	37.45
7+ children	609	21.02
Total	2,897	100.00

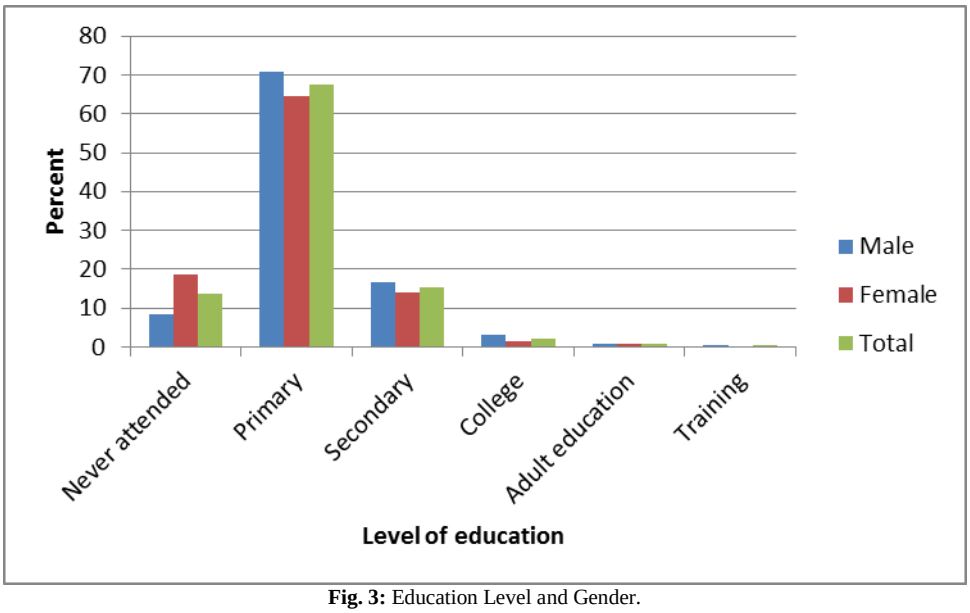


Fig. 3: Education Level and Gender.

Respondents were asked to describe economic activities they have been engaging in for a considerable time. Results show that the majority of the respondents (74%) had 10 or more years of experience in agriculture (see Table 5). The expectation from the experience outcome is that sampled small holder farmers would be in position to show some success in what they do. However, output on the ground does not reflect success at all. This reality further justifies the study`s focus on understanding the constraints that smallholder farmers face and ways to redress them.

Below are types of crops and animals that farmers keep to get some context on challenges and opportunities that may be realized.

Table 5: Respondents' Economic Activity

Economic Activity	Time in activity (in year)				
	0-4	5-9	10-14	15-19	20+
Crop cultivation	14.43	15.42	23.35	16.14	30.66
Livestock keeper	21.57	11.76	16.34	16.34	33.99
Crop cultivation and Livestock keeper	9.31	14.10	19.73	16.62	40.23
Total	12.00	14.49	20.98	16.42	36.11

4.2. Crops grown by farmers

The study identified crops which sample farmers grew. Results on figure 4 show that 79% of respondents cultivate maize. This was to be expected given the fact that maize is a staple food for many in Tanzania and has also become a cash crop. This was followed by beans (36%), rice (22%), vegetable (34%), sunflower (33.6%), millet (205), cassava (26%), sweet potatoes (28%), and banana (14%). Other crops grown are cashew nuts (4%), cotton (3%), coffee/tea (2%) and ground nuts (3.75%) as it is shown in the figure below. It is important to note that some of crops grown by farmers such as maize, paddy, sunflower and cotton are priority crops as per the Five Year Development Plan II (URT, 2016). The farmers are thus in line with government's plan to embark on agro-processing consistent with Tanzania's Vision 2025 to make the country semi-industrialized.

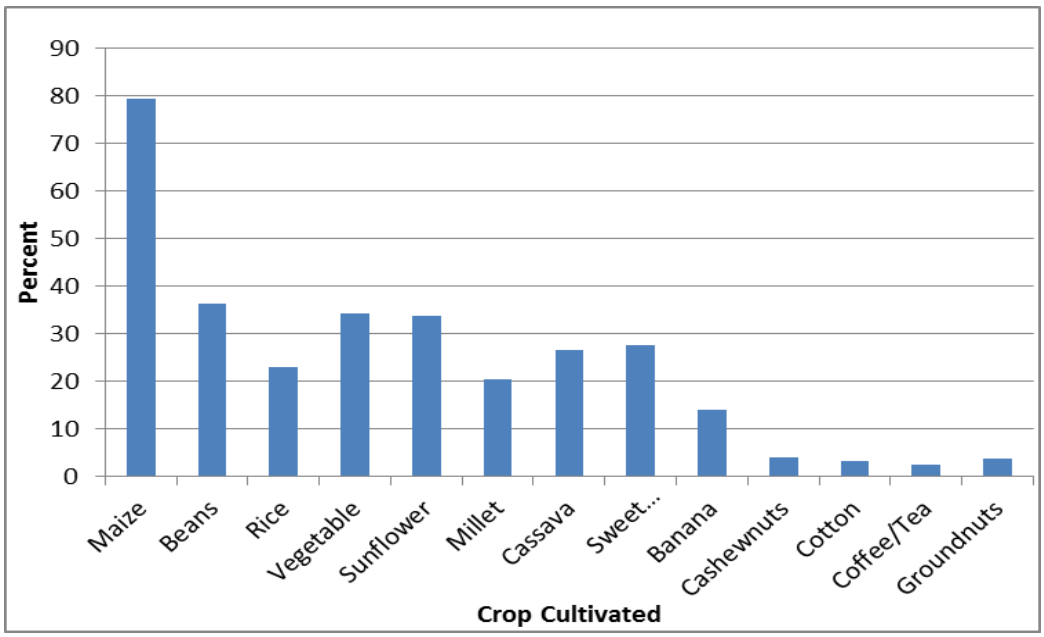


Fig. 4: Crops Cultivated by Respondents.

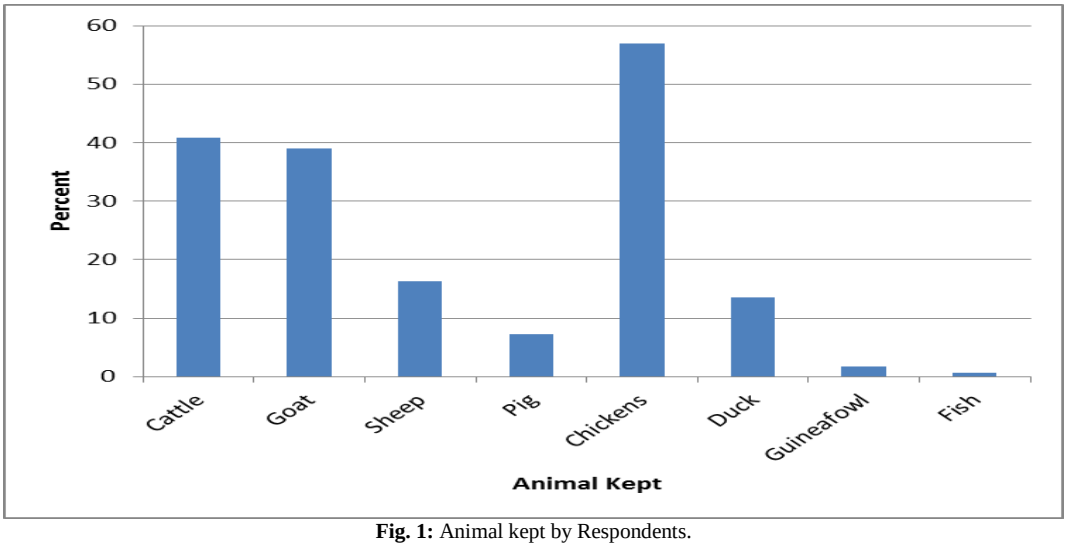


Fig. 1: Animal kept by Respondents.

4.3. Animals kept by farmers

Given the priority by the government on starting manufacturing of some animal products, it was important to look at types of animals that are kept by farmers. Results (see Figure 5) indicated that animals that are kept included cattle (41%), chickens (57%), goats (39%), ducks (13%), fish (0.64%) and Guinea fowl (1.69%) as shown in figure 5 below. Again, farmers are not very far from priorities set out in the Second Five Year Development plan which points out to manufacturing of animal products such as beef, dairy, chicken, hides and skins (URT, 2016).

4.4. Challenges facing farmers

The study looked at the challenges that face small scale farmers. Findings indicated that the majority of farmers faced 11 similar albeit longstanding challenges (see Figure 6). These challenges included, but were not limited to, lack of access to loans (69%); inadequate subsidies (68%); access to market (64%); information

alert on agriculture-related issues (61%); persistent drought (60%); availability of quality and affordable seeds (58%); access to pastures (57%); availability of technical advice (56%); availability of quality and affordable fertilizers (50%); availability of agricultural infrastructures (46%) and availability of water (45%).

Farmers were then asked to provide ways that they have been using to overcome stated challenges. Findings revealed that respondents use widely different techniques to overcome challenges they face while cultivating crops and/or keeping animals (see Figure 7). Specifically, 23% of the respondent used loans as a way to overcome their challenges; migrating to access markets, pastures, fertile land and water (33%); used readily available inputs such as natural fertilizers (23%); prioritizing only important needs (22%); cultivating crop which are drought resistant (17%); forming groups for both animal keepers and farmers for easy access of loans and helping them in case needs arise (18%); applying irrigation (19%); avoiding to burn crop remnants so as they can be recycled as fertilizers (28%); selling some of kept animals (17%); and borrowing from relative and friends (23%).

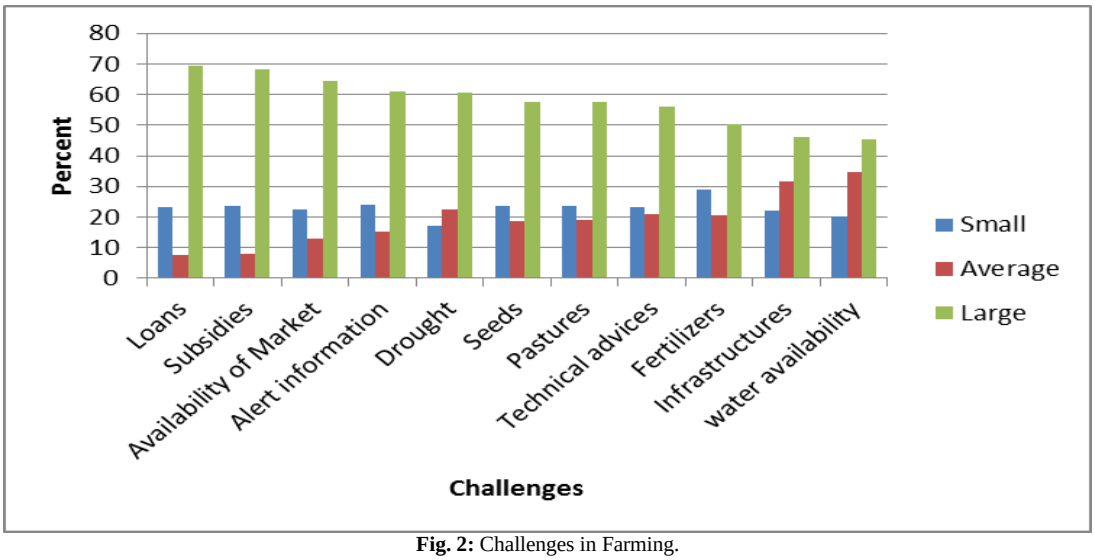


Fig. 2: Challenges in Farming.

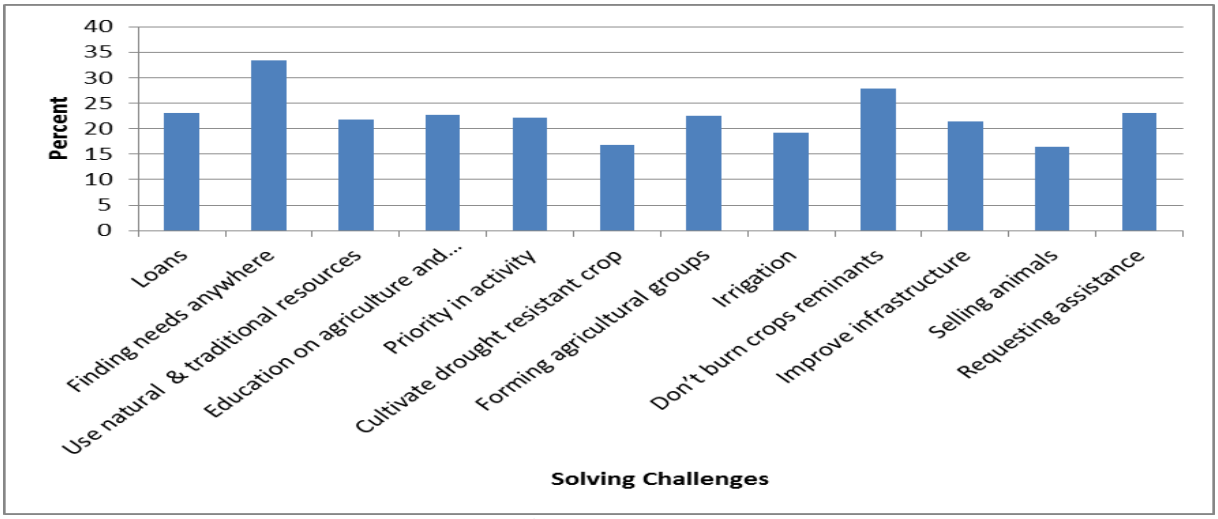


Fig. 3: Ways of Solving Agriculture Challenges.

Some of the solutions suggested by farmers to address the challenges they face are by and large neither sustainable nor appropriate for productive farming. For example migrating to other places to secure fertile land and pastures for animals is no longer feasible given the growth of population in Tanzania. Also loans from friends while cheaper, they tend not to be reliable and thus unsustainable. Mitigating the cost faced by farmers is therefore critical. To this end, the next section turns to priority areas that small holder farmers think should be considered if their livelihoods have to be improved.

4.5. Priorities of smaller scale farmers

Small scale farmers were asked to list priority areas that, if improved, could aid their economic activities. Findings reveal 10 priority areas as proposed by farmers (see Table 6). These are: availability of quality and affordable seeds (58%); availability of advice from experts (57%); availability of quality and affordable fertilizer (51%); availability of quality agricultural infrastructures (54%); availability of subsidies (64%); access to markets (64%); availability of information alert (59%); availability of affordable loans (67%); availability of pastures for feeding animals (61%); and access to water (55%). It is in this context that we believe that at the heart of all these challenges is the need for the government to pump enough funds to aid the ailing agricultural sector.

4.6. Farmers' perception on the ability of government to solve their challenges

Farmers were asked if they believe that the government can solve their economic challenges. Results show that the majority of farmers (70%) think the government can solve their challenges (see Figure 8). This resounding show of confidence to the government is born first of past positive government engagements with farmers and the presence of distortions in markets which are biased against farmers' interests.

Table 6: Farmers Priorities

Priorities in Agriculture	Percentage			
	Low	Average	High	Total
Availability of quality seeds	27.50	14.61	57.90	2,855
Advices from experts	24.61	18.85	56.54	2,881
Availability of Fertilizers	30.94	17.91	51.15	2,825
Quality infrastructures	23.68	22.77	53.55	2,863
Availability of Subsidies	26.17	10.12	63.70	2,835
Availability of Market	26.35	10.00	63.65	2,880
Availability of Information on alert	27.75	12.42	59.83	2,843
Availability of Loans with low interest rate	26.41	6.93	66.67	2,844
Availability of pastures	23.22	16.10	60.68	2,696
Availability of water	18.96	26.41	54.63	2,832

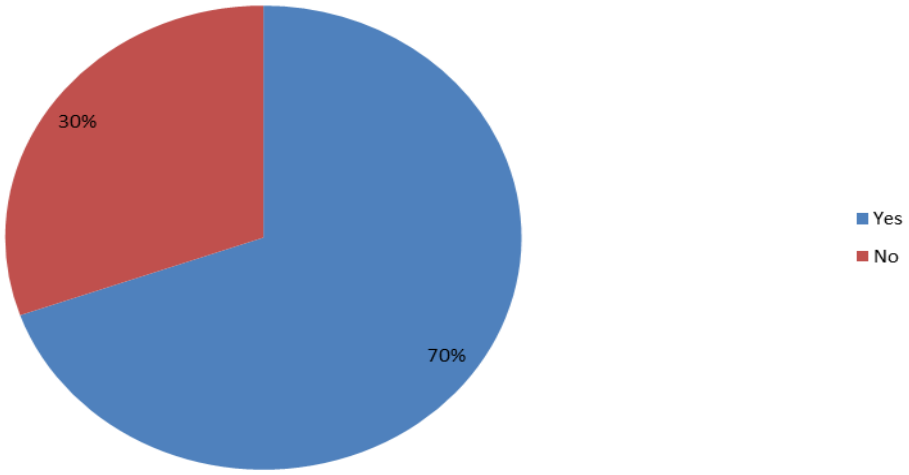


Fig. 4: Ability of the Government to Solve Challenges.

4.7. Ways government can solve challenges

Smaller holder farmers were asked to give their opinion on how the government can solve different challenges they face. Not surprising that the majority of farmers (61%) thought the government can solve these challenges by giving subsidies. Another 27% suggested that agricultural education from experts would whereas 17% pointed to availability of affordable loans. Extension services (20%); agricultural infrastructure (17%); access to markets (6%); control of fake inputs (5%) as well as availability of demarcated areas for crop cultivation and animal keeping (4%) were other suggested solutions that the government can consider.

Table 7: Ways Government Can Solve Challenges

Ways Government can solve challenges	Number	Percentage
Provide Subsidies to farmers	1,209	60.85
Education provision from experts to farmer	532	26.77
Giving Loans	341	17.16
Building infrastructure	339	17.06
Assured market	126	6.34
Supervising experts	389	19.58
Separate areas (animal for animal feeding and crop production)	84	4.23
Control of fake agricultural inputs.	98	4.93

4.8. Ability of other stakeholders in overcoming farmers' challenges

Farmers were thereafter asked if there are other stakeholders, apart from the government, who can solve their agriculture challenges. Results indicated that only 47% agreed that there are other stakeholders who can solve their challenges. Once again this result indicates that, by and large, the government is critical in solving farmers' problems and thus it cannot act otherwise.

4.9. Stakeholders who can overcome small scale farmers' challenges

The 47% of farmers who indicated that there exist other stakeholders who can help them to overcome their challenges were then asked to indicate how these stakeholders can contribute towards improving their livelihoods. Results on figure 10 below shows that 23% of these farmers stakeholders could do so through providing agriculture education; advising the government on how to help them (17%); providing agricultural inputs (23%); providing loans (17%); improving agricultural infrastructures (17%); and forming farmers/livestock keepers groups (29%) for ease of securing loans.

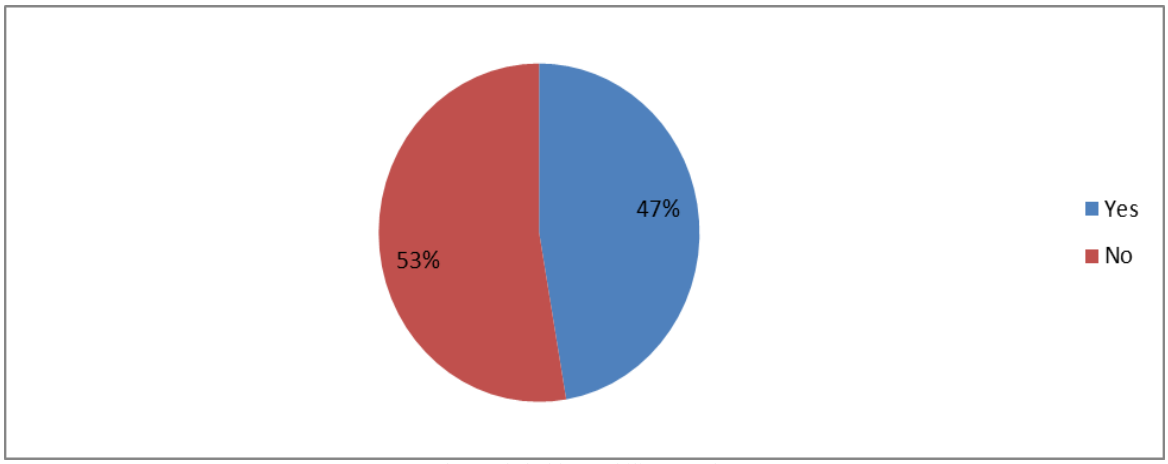


Fig. 5: Other Stakeholders' Ability to Help Farmers.

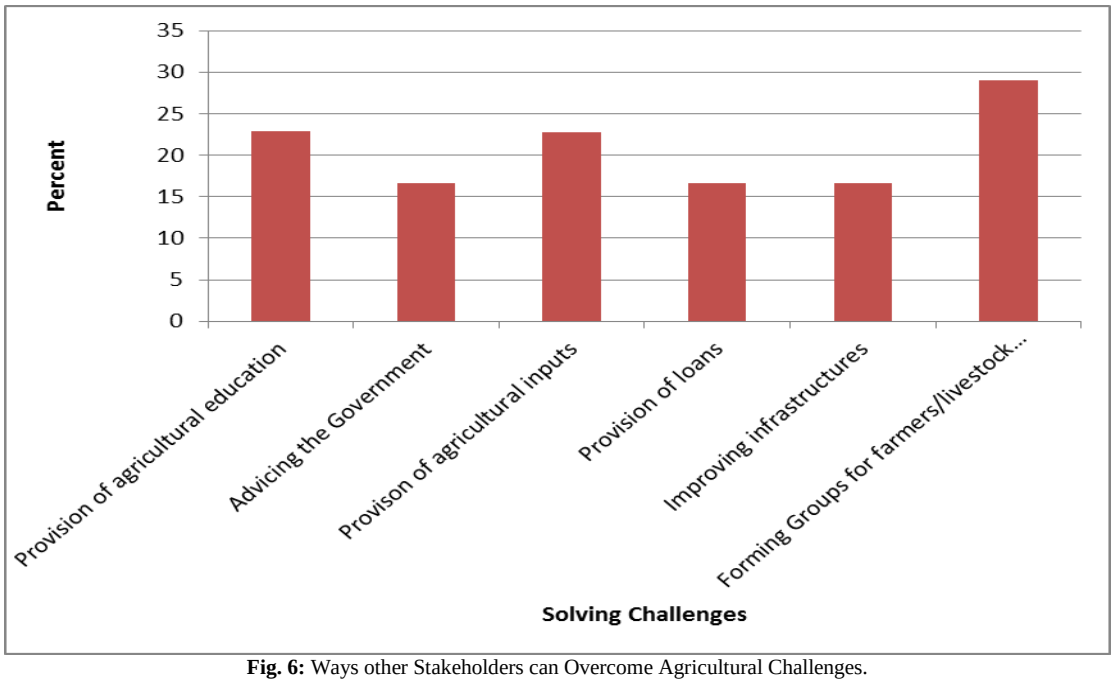


Fig. 6: Ways other Stakeholders can Overcome Agricultural Challenges.

These results indicated that despite farmers having a belief that other stakeholders can help to solve their challenges, the way they can do it, for instance giving advice to the government, does not exclude government involvement. This means that the government is a key pillar for improving livelihoods of farmers and that the efforts to address the challenges facing them have to be collaborative. This of course does have a bearing on the budget that the government allocates to agricultural sector. Budget occupies the next round of discussions in this paper.

4.10. Government budget

Government budget refers to a statement of projected revenues and expenditures of the government. It is important for farmers to understand it as they have consistently suggested that the government is their last resort. Therefore farmers were asked if they have ever heard about government budget and results were cross-checked against their level of education. Unfortunately findings show that the majority of farmers (69%) indicated that they have never heard anything about the budget (see Table 8). This could partly be because of the low level of education (recall that most possess primary level of education) which makes them incapable of following budget issues and understand its importance thereof. It could also be attributed to poor dissemination of agricultural-related information particularly in rural areas where farmers` ownership of radios, TVs and mobile phones remains relatively low.

Interestingly, of the farmers who claimed to have heard of the budget, only 33% percent understood what it entailed (see Figure 11). This suggests that there is very little, if any, awareness of the very budget that farmers think is available for them to access in the course of improving their livelihoods.

Furthermore, of the farmers that claimed to understand the budget, the majority (60%) said their understanding of the budget is low. 34% had average understanding and only 6% thought they had high understanding of the same (see Figure 12). The need to provide budgetary information to farmers cannot therefore be overemphasized.

Meanwhile, findings show that the majority of farmers (74%) have never received any form of training on budget (see Figure 13). This explains why the majority of those who claim to understand the budget indicated that their understanding is either low or average.

Table 8: Level of Education and Budget Understanding by Farmers

(Have you ever heard about government budget?)Education	Heard about Budget Yes		No		Total	
	Number	%	Number	%	Number	%
Never attended	43	11.14	343	88.86	386	100
Primary education	608	32.94	1,238	67.06	1,846	100
Secondary education	167	38.75	264	61.25	431	100
College/Institute	43	63.24	25	36.76	68	100
Adult education	2	8.00	23	92.00	25	100
Special training	3	33.33	6	66.67	9	100
Total	866	31.32	1,899	68.68	2,765	100

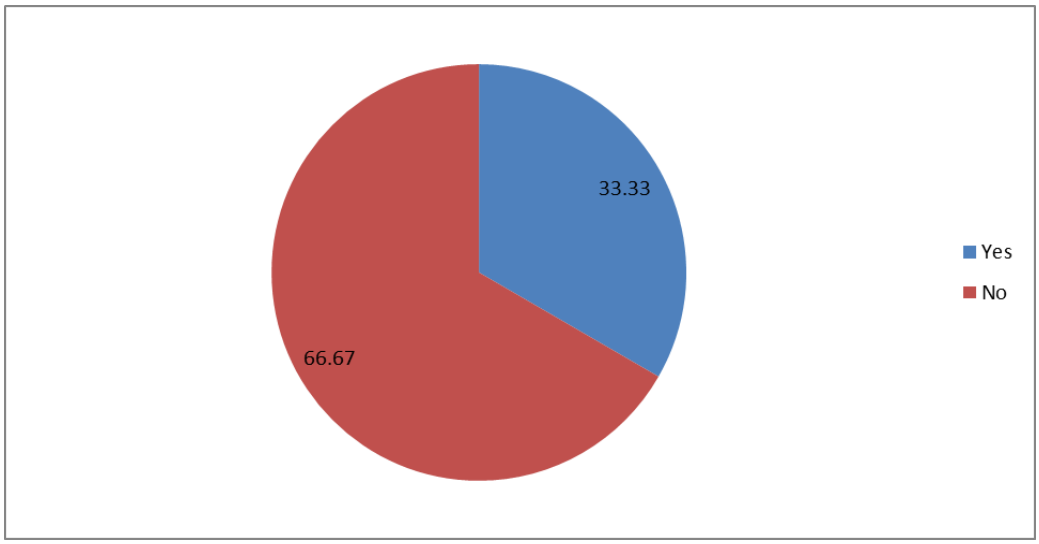


Fig. 11: Proportion of Farmers who Have Heard of he Budget.

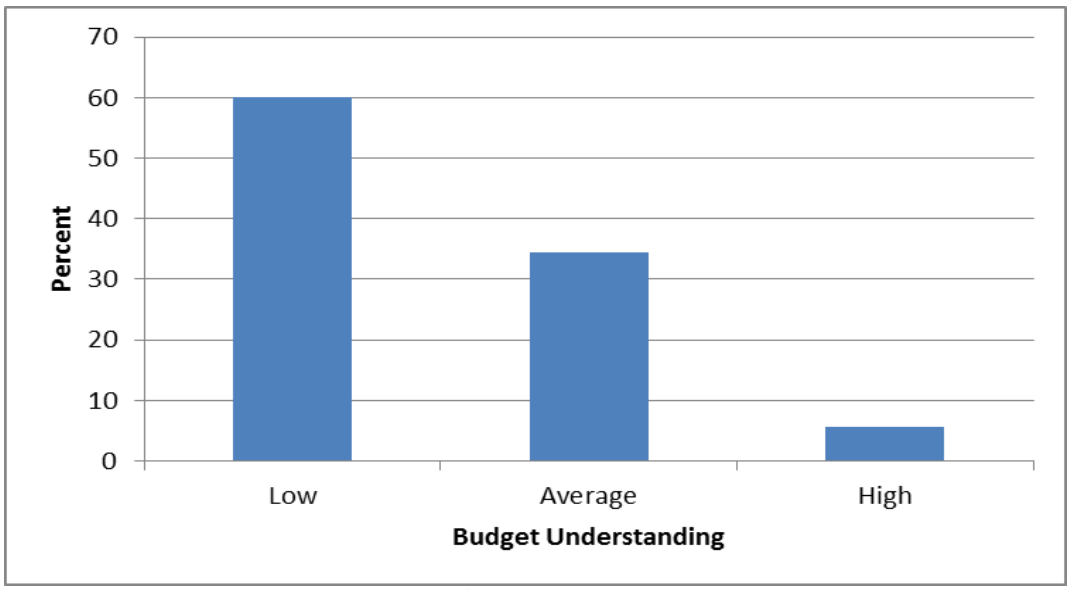


Fig. 12: Proportion of Farmers who understand the Budget.

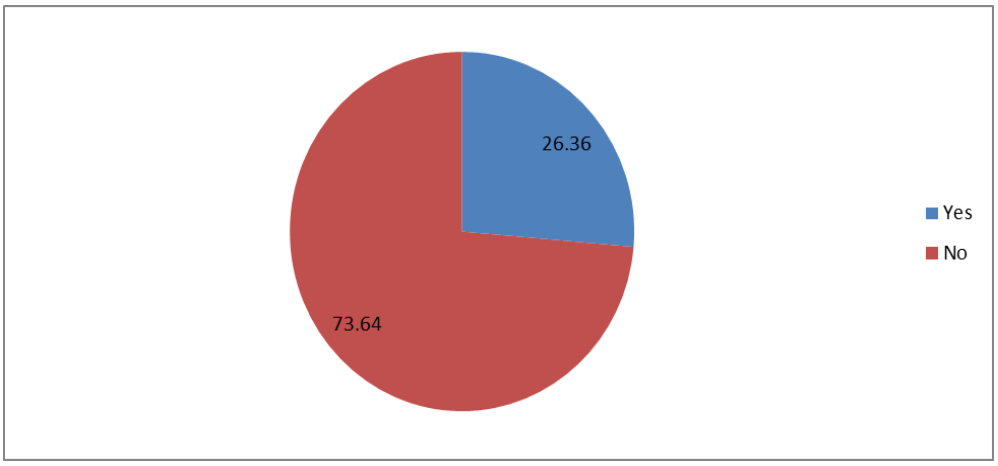


Fig. 13: Farmers with Budget Training.

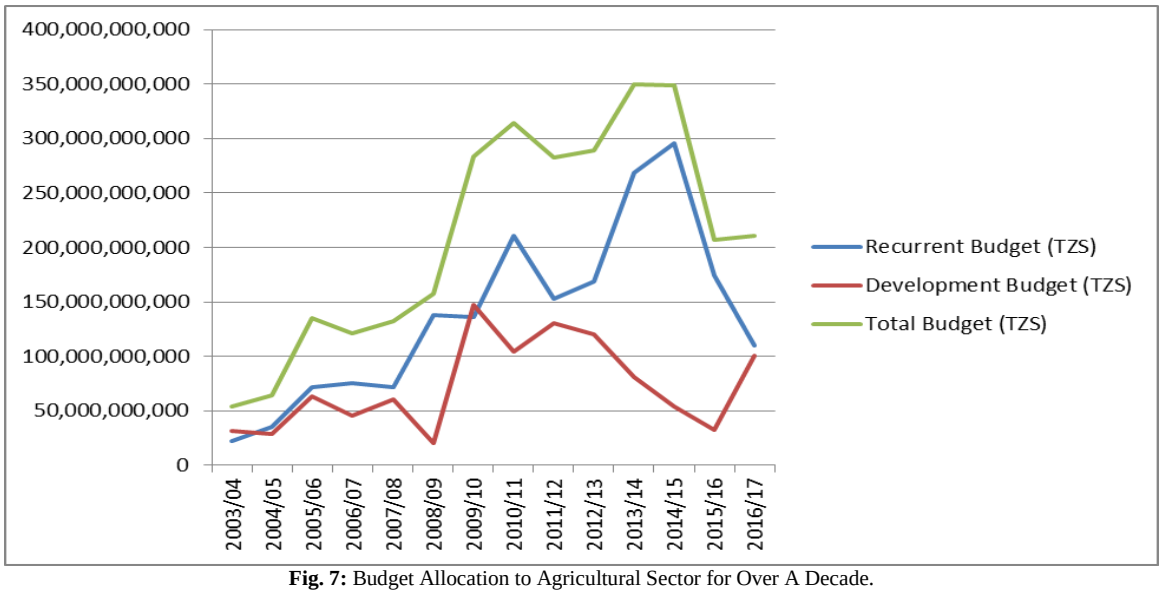


Fig. 7: Budget Allocation to Agricultural Sector for Over A Decade.

In concluding the budget section, it is important to scrutinize the budget that farmers believe exists. Note that Tanzania has committed itself to the Maputo Declaration that requires African Union member states to allocate at least 10% of national budget to agricultural sector. Unfortunately, this threshold has not been adhered to by the government of Tanzania. To make matters worse, there appears to be an alarming trend in which the budget allocation for agricultural sector has generally been on the decline. Indeed, Figure 14 below shows that budget allocation to agriculture has increased continuously from financial year 2003/04 and picked in 2013/14 before it started to have a declining trend. This raises questions on the commitment of the government to capitalize on the potential of the agricultural sector to improve livelihoods of the poor.

4.11. Availability of services to animal keepers and farmers

The decline in budget allocation to agricultural sector in real terms has meant that some of key services cannot be accessed by farmers. For instance, farmers were asked if in the past one year they obtained extension services and to what extent. To no surprise, the majority of farmers lamented on missing necessary service. Table 9 below show that 76% of farmers have not received subsidies; 68% did not get quality seeds; 74% did not get pesticides and insecticides; 68% did not get quality agricultural inputs; 71% did not receive extension services; 74% did not receive information alert relevant to farming and 84% did not get loans that they very much wanted.

Table 9: Agricultural Extension Services

Services	Percentage				
	Low	Aver-age	Hig h	Didn't get	Total
Subsidies	16.99	5.78	1.05	76.18	2,855
Quality seeds	17.04	12.61	2.46	67.88	2,846
Pesticides and Insecti-cides	13.38	8.82	3.55	74.25	2,788
Fertilizers	16.86	12.5	3.01	67.62	2,823
Agricultural inputs	15.34	8.84	2.09	73.73	2,817
Extension officer ser-vices	13.63	12.36	3.27	70.74	2,840
Information alert	11.99	10.52	3.66	73.83	2,843
Loans	9.84	4.90	1.67	83.59	2,816

Table 10 shows of farmers who claimed to have accessed extension services, very few thought the services were good enough. This could be attributed by the number and quality of available extension officers both of which depend on government's budgetary allocation to the agricultural sector.

4.12. Availability of improved/new agricultural infrastructure

Farmers were further asked if in the last 12 months there has been agricultural infrastructures improvement or new added infrastruc-

tures by the government. Results on table 11 show that the majority of farmers thought nothing has been done is the response to agricultural infrastructure they need (Table 11). This results show that majority of farmers understand and are much concerned by the way the government invests in improving agricultural infrastructure.

Table 10: Accessibility to Extension Service

Services	Never	Poor	Average	Good	Total
Pesticides and disease	76.61	12.83	9.26	1.30	2,852
Quality seeds	72.63	16.53	9.07	1.77	2,832
Soil conservation	81.50	10.92	6.59	0.99	2,821
Advice to women groups	71.03	12.07	13.2	3.71	2,834
Irrigation skills	80.06	11.15	7.11	1.68	2,799
Value addition	83.32	10.70	4.94	1.03	2,812
Terracing	79.36	11.59	7.66	1.39	2,805
Diversification	77.13	11.29	9.36	2.22	2,799
Getting startup capital	81.23	10.69	6.42	1.66	2,835
Weather condition information	77.47	11.04	9.51	1.99	2,809
Information on good agricultural practice	77.69	10.23	9.98	2.10	2,815
Silo/ animal shelters	79.13	10.53	8.72	1.62	2,592

Table 11: Agricultural Infrastructures

Infrastructure	Added (New Project)	Improved	Nothing has been done	Total
Water/irrigation	4.10	8.38	87.52	2,877
Water harvest	3.14	5.45	91.41	2,863
Road	2.99	26.17	70.83	2,873
Dams	2.80	6.39	90.81	2,862
Farm seeds	1.30	5.93	92.77	2,851
Market	1.71	5.55	92.74	2,865
Research	2.14	5.34	92.52	2,849
Farmers Field School (FFS)	2.46	10.28	87.26	2,850
Storage facilities	1.35	7.16	91.49	2,820
Dipping trough	1.73	7.40	90.86	2,769
Energy	3.56	18.29	78.15	2,838

4.13. Advices to women small holder farmers about Budget

Farmers were also asked about what they thought women needed to improve their livelihoods. Results show that the majority of farmers (81%) pointed out to education on farming and animal keeping (see Table 12). Others talked about accesses to market and road infrastructures (4.5%); having women farmers' representatives in the parliament (22%); and providing agricultural inputs and loans with less conditionality (68%). It was importantly made very clear that there has been very little involvement of farmers in decision making and planning. This of course has a bearing on the possibility of farmer getting services that they really need.

Table 12: Advice to Women Small Holder Farmers

Advice	Frequency	%	Total
Improve infrastructures e.g. roads and market areas	134	4.53	2,957
Women farmers representatives in the Parliament	678	22.93	2,957
Agricultural inputs provision and loans	2,027	68.55	2,957
Education on farming and animal keeping	2,396	81.03	2,957

4.14. Other issues to be considered

Farmers were finally asked to indicate other budget issues to be considered in the quest for improving their livelihoods. Table 13 below shows that 5% of farmers want farm inputs to reach them on time; 11% wanted agricultural infrastructure improved; 6% wanted allocated budget to reach the ministry of agriculture on time: 5.7% wanted accessibility to market improved; 5.4% wanted levy charged on crops to be decreased; and 5.14% suggested that there should be an allocation of funds for seminars and training for smaller scale farmers.

Table 13: Other Budget Issues to Be Considered

Issues	Frequency	Percentage
Budget increase	241	8.15
Farm inputs to reach to farmers on time	156	5.28
Improving infrastructures	335	11.33
Allocated fund should reach the respective ministry on time	183	6.19
Market areas should be improved	169	5.72
Levy on crops should be decreased	159	5.38
Allocation of funds for seminars and training	152	5.14

5. Conclusion and recommendation

Poverty reduction has been a difficult milestone for Tanzania to achieve despite a remarkable GDP growth over the past decade. Central to this paradox is the realization that the growth is not inclusive, in that sectors contributing to this growth employ fewer people. Meanwhile, agriculture continues to employ the majority of people in Tanzania. It is against this background that any efforts to improve livelihoods of the people should be geared towards transforming agricultural sector with special attention on small holder farmers. It is in this context that this study set out to examine challenges facing farmers and their respective solutions.

Findings show that a typical small holder farmer is youthful, married, poor, equipped with low level of education, and having many children (at least four). These characteristics usually entangle farmers in the vicious cycle of poverty. Transforming agriculture is thus the only way out for most of these farmers.

Farmers face diverse challenges on daily basis. It was thus logical for the study to draw these challenges from farmers. In the end, the majority of farmers mentioned the following: i) lack of access to loans ii) inadequate subsidies iii) access to market iv) information alert on agriculture-related issues v) persistent drought vi) availability of quality and affordable seeds vii) access to pastures viii) availability of technical advice ix) availability of quality and affordable fertilizers x) availability of agricultural infrastructures and xi) availability of water.

The coping mechanisms that farmers use to face their challenges include: i) securing loans from friends and relatives ii) migrating to access markets and pastures, fertilizers and water iii) using readily available inputs such as natural fertilizers iv) prioritizing only important needs v) cultivating crop which are drought-resistant vi) forming groups for both animal keepers and farmers for easy access of loans and helping them in case needs arise vii) applying irrigation viii) avoiding to burn crop remnants so as they can be recycled as fertilizer of the ix) selling some of kept animals and x) borrowing from relative and friends.

It is interesting to note that the majority of farmers place their trust on government when it comes to problem solving. Priority areas that these farmers would like the government to concentrate on while helping them include ensuring: i) availability of quality and affordable seeds ii) availability of advice from experts iii) availability of quality and affordable fertilizer iv) availability of quality agricultural infrastructures v) availability of subsidies vi) access to markets vii) availability of information alert viii) availability of affordable loans ix) availability of pastures for feeding animals and xi) access to water.

Farmers' priority areas could only be met if the government allocates enough funds to agricultural sector. However, the government has not only failed to adhere to its commitment on the Maputo Declaration that requires African Union member states to allocate at least 10% of national budget to agricultural sector but also an alarming declining trend on funds allocated to agriculture can be observed over the course of past four years. The decline in budget allocation to agricultural sector in real terms has meant that some of key services cannot be accessed by farmers. Such services includes: i) subsidies ii) quality seeds iii) quality pesticides and insecticides iv) extension services v) information alert relevant to farming vi) new/improved agricultural infrastructure vii) farming techniques training viii) accessibility to markets and ix) availability of loans.

This study, therefore, strongly argues for government to rethink its position and allocate more funds to the agricultural sector. In fact doing so will be in line with Tanzania's Vision which has aspirations that Tanzania should become a semi-industrialized country by 2025 with agro-processing being at the centre of the said industrialization process. It is also remarkably interesting to note that farmers cultivate crops and keep animals that fall under priority agricultural products that have been earmarked in the Second Five Years Development Plan as raw materials for envisaged industries.

In conclusion, this study provides a smart way to understanding challenges and priorities of farmers in their activities. Findings point about the need for a more concrete involvement of the government in terms of ensuring availability of subsidies, loans, quality inputs, infrastructure, information alert, extension services as well as access to markets to farmers.it has been stated time and again in this study, transforming agriculture is the only way to achieve inclusive growth and in turn improving livelihoods of the these case farmers. Investing in the agricultural sector is a no-brainer to re should thus be a no brainer to the government of Tanzania.

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