Original Article

Influence of Budget Allocations within Government Budget Execution on Market Participation: Case of Maize in the Southern Highland regions of Tanzania

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ABSTRACT

Government budget allocations within budget execution are important in pushing the agricultural transformation agenda in Tanzania. However, agriculture public expenditure review studies show that with the exception of a few geographical areas in Tanzania, government budget allocations have generally been insufficient to bring about the desirable transformation from subsistence to commercial agriculture. Thus, this paper investigates the pivotal role of government budget allocations within budget execution in facilitating the commercialisation of maize, a crop that is both a major food and cash crop in Tanzania. It also assesses the factors that affect the performance of budget allocations. The descriptive survey design was employed whereby a cross-sectional survey was conducted to collect data from 180 local government officials in the Mbeya and Songwe regions that were sampled in the southern highland regions. Data was analysed through descriptive statistics and multiple regression using Statistical Package for Social Sciences (SPSS) software. The mean and standard deviation were used to measure budget allocations via the interpretation of means by Weak (Wk) and Strong (St). The findings show that the means of budget allocations were strong, and all four variables under it exerted a positive influence on maize commercialisation as measured through market participation. From the parameter estimates, standardised beta coefficient values were 0.468, 0.091, 0.030 and 0.167, respectively. In addition, the findings also show and confirm the requirement of the Maputo Declaration of 2003, which was reiterated by the Malabo Declaration of 2014, for governments in Africa to allocate at least 10% of their national budgets to agriculture. Based on the findings, the researchers conclude that effective and efficient budget allocations within budget execution are essential for achieving government development goals and objectives, including the transformation of agriculture from subsistence to commercial. It is recommended that the government should strengthen the budget execution process at all levels of government.

INTRODUCTION

Budget execution in the public sector domain is central in government management of financial resources to achieve targeted development goals and objectives. As a process, budget execution involves three major stages, namely budget allocations, budget disbursements and budget expenditures (Peterson, 1994; Mogues, 2012). In Tanzania, the budget allocations to different sector spending units, such as ministries, independent departments, and agencies (MDAs), are approved by the Parliament during annual parliamentary budget sessions. Given the allocations, budgeted disbursements are effected by the Ministry of Finance and Planning (MOFP) through the medium-term expenditure framework (MTEF). The MTEF, which is a resource management tool, is a prioritised three-year integrated performance budget employed by MDAs and local government authorities (LGAs) to implement their strategic plans, programmes, and projects. Under the MTEFs, budgeted expenditures are undertaken in accordance with the laid down rules and procedures in order to ensure that the funds are spent as intended. These rules and procedures, which guide the budgeted expenditures, exist in National Budget Guidelines, which are prepared and issued by the Ministry of Finance and Planning pursuant to Section 21 of the Budget Act No. 11 of 2015 and the Budget Regulations of 2015 (MOFP, 2017). The budget guidelines, amongst others, put emphasis on ensuring that planned activities in MDAs and LGAs are fully financed in order to achieve the designated goals and objectives. Whether the latter is achieved, by and large, remains unknown for two main reasons. One is that hardly any studies have been conducted to assess compliance with budget guidelines. Second, official sector performance reports rarely link performance with financing. In addition, baseline indicators or information are widely unavailable in many sectors.

Nonetheless, the directive for fully financing planned activities in the agriculture sector of Tanzania is strengthened by the Maputo Declaration of 2003. This declaration, which was reiterated by the Malabo Declaration of 2014 by African Heads of State, aims to facilitate effective agricultural transformation in African countries. The declarations, amongst others, require governments to increase annual national budgetary allocations for agriculture to at least 10% and to ensure growth of the agricultural output of at least 6% (United Republic of Tanzania, 2017). Thus, for decades, the government of Tanzania has been allocating budgets to the agricultural sector MDAs and

LGAs for implementing a number of agriculture policy development goals and objectives. A major agriculture sector policy development goal until now is transforming agriculture from subsistence to commercial agriculture, as contained in Tanzania's Agricultural Sector Development Programme II (ASDP II). Trends in agriculture sector budget allocations show that it has fallen from TZS 828.8 billion in 2015/16 to TZS 774.1 billion in 2020/21. During the same period, the budget allocated to the agriculture sector averaged 2.9 % of the national budget, as shown in the Tanzania public expenditure review report (World Bank, 2022). In addition, the registered average annual agriculture growth from 2016 to 2021 was 4.9%, as indicated in the national economic survey for 2021 (MOFP, 2022). Hence, the sectoral budget allocation trend and agricultural growth performance shown above-cast doubt on whether the allocations can effectively facilitate agricultural commercialisation in Tanzania.

The main purpose of this paper is to investigate how budget allocations affect maize commercialisation within the overall framework of government budget execution. In relation, the study seeks to assess factors in government budget allocations affecting its influence on market participation of maize in the study area. In doing so, null hypotheses will be tested, which are as follows. Priority areas-based budget allocations, work plan compliant budget allocations, sufficient budget allocations, and timely budget allocations have no significant effect on market participation of maize in the study area.

LITERATURE REVIEW

Walker's theory on government budgeting and budget implementation is progressive budget theory. According to Khan and Hildreth (2002), Walker's progressive budget theory asserts that government budget allocations based on the indifference point in the economic theory provide facts to replace allocations based on judgment. The indifference point was a measure of current expenditures as an expression of the balance between citizen demand and government service provision. Hence, according to Khan and Hildreth (2002), a theory of expenditures based on economic ideas was preferable to reliance on abstract pleas to the claims of justice that were noneconomic and external to the government. The main message from this is that budget allocations ought to be made based on sound economic analysis for it to have a positive effect on planned objectives and targets.

Other key outtakes from Walker's progressive theory relevant to this study include the following. First, governments are progressive in that they seek to provide a higher level of quality and quantity of services rather than the bare minimum. Here, emphasis is placed on the issue of realising value for money out of the budget execution. Second, budget allocations include four values: honesty, economy, efficiency, and proportion. That is, budget allocations ought to be made in an open and transparent manner, to be spent efficiently and to be allocated proportionately to ensure the attainment of planned activities. Third, the type and level of services are determined through comparison with other governments and fourth, the distribution of services should be compared based on the quality of services actually provided. Thus, budget allocations ought to consider these latter aspects to have a positive impact on the attainment of policy development goals and objectives.

Regarding agricultural commercialisation, Pradhan et al. (2010) refer to agricultural commercialisation as the process of increasing the proportion of agricultural production that is sold by farmers in the market. Likewise, Poulton and Leavy (2008) also follow the same definition and view commercial agriculture as being the production primarily intended for the market and is not dependent on the scale of production or related to particular types of crops. On the other hand, Zhou et al. (2013) explain that commercialisation considers both the input and output sides of production and the decision-making behaviour of farm households in production and marketing simultaneously. Thus, the element of selling agricultural produce in the

market, i.e., market participation, is highly relevant in this study. Gebremedhin and Jaleta (2010) defined market participation as the proportion of crop output sold and inputs purchased. They further stated that it is a proxy of agricultural commercialisation. Otekunrin, Momoh and Ayinde (2019) state that market participation is viewed as the integration of subsistence or semi-subsistence farmers into the inputs and output markets of agricultural products, with the aim of boosting their income level, resulting in poverty reduction. Hence, for the purpose of this study, market participation can be referred to as participation in any agricultural market-related activity involving the sale of maize and the purchase of inputs for increased income and maize crop productivity.

Against this backdrop, some empirical studies have shown by implication that not observing Walker's progressive budget theory leads to poor budget performance, which in turn hinders the attainment of development goals, objectives, and targets. Some of the causes of poor budget performance include poor planning, extra-budgetary affairs, delay in the release of funds, non-compliance to financial regulations, and lack of proper monitoring and evaluation (Olurankise, 2013). In addition, inadequate audit functions, inadequate administration and reporting on public funds affect budget performance (Mungai & Nasieku, 2016). The World Bank paper about how to improve public expenditure in agriculture (WB, 2011) from a six-country case study on agricultural public expenditure reviews (APERs) showed that large discrepancies existed between planned and actual budget execution that far exceeded accepted international standards. The underlying causes of the discrepancy included late release of funds, cutbacks in approved budgets due to revenue shortfalls or unforeseen demands on available funds. In assessing constraints to capital budget implementation in Nigeria, Lionel Effiom and Edet (2019) also showed that delay or non-release of funds to Ministry Departments and Agencies (MDAs) negatively affected capital budget implementation.

Thus, the issues discussed lead to nonattainment of planned targets and activities. In addition, a paper by Mogues (2012) that discusses what determines public expenditure allocations also supports all the previous scholars' assertions. Nevertheless, more importantly, Aimable and Nyamita (2015) showed that there is a positive correlation between budget execution and public financial management. The authors build their case by also citing Robinson (2007), that efficient budget execution must observe laid down rules and regulations and adapt to major changes in the economy. In addition, it must conform to policy development objectives set forward.

At the project implementation level, an Agricultural Sector Joint Sector Review (AJSR) for 2014/15 and 2015/16 for mainland Tanzania showed that changing focus, inadequate funding, late disbursement of funds, weak monitoring and evaluation system, low budget ceilings and low own source funds from local government authorities leads to poor budget performance (MALF, 2017). This ultimately leads to a number of unfinished projects that cannot serve their intended beneficiaries, thus making government agricultural development objectives and targets not to be achieved. This is a troubling concern, as Pradhan et al. (2010), amongst others, showed in a study on agricultural commercialisation and diversification in Bhutan. They showed that in order to ensure the efficient functioning of agricultural markets, governments should consider several investments and interventions in hard infrastructure and soft infrastructure. Hard infrastructure includes but is not limited to roads, collection centres, and storage facilities, while soft infrastructure, amongst others, includes extension services. Also, Mutabazi et al. (2013), in a study investigating the commercialisation of African smallholder farming in Central Tanzania, showed that location in areas with good road networks or better road access ensures efficient market linkages and high-speed exchange logistics. They thus assert that those market features promote the commercialisation process or market participation, and the government should consider investing in them. The

recommendations put forward in the empirical studies imply that governments need to include the mentioned investments in their budget execution processes, as public investments are through government plans and budgets.

Thus, to sum up, the pivotal role of government budget execution, Premchand (1994) explained that despite being a very important process to help governments realise their policy development targets and objectives, it had been seen by many as just a process for conducting pre-audit of expenditures as well as an administrative process. Yet, from the literature review, it is clearly seen that effective government budget execution, including adequate funds allocations, is important to ensure expenditures of public funds lead to the attainment of intended government goals and objectives, and in this case, maize commercialisation as measured through market participation. This fact is the motivation for the study.

RESEARCH METHODOLOGY

Research Approach and Design

In order to achieve the objectives of the study, the researchers used the quantitative research approach or paradigm. The research approach was selected because it allows a broader study, involving more subjects and enabling more generalisation of results. The descriptive survey design was employed, through which a cross-sectional survey was conducted in the study area. According to Kothari (2011), the main characteristic of this design is that the researcher has no control over the variables and can only report what has happened or what is happening. Respondents' views were collected on how budget allocations affect maize commercialisation within the overall framework of government budget execution.

Data Type and Sources

This study is based on primary and secondary data. The primary data was collected by a survey that covered two of the Southern Highland regions in Tanzania, namely the Mbeya and Songwe regions. The two regions comprise a total of eleven local government authorities (LGAs), out of which 10 LGAs were covered. Six LGAs were from the Mbeya region, and four were from the Songwe region. Noteworthy, a purposive sampling method was employed to select the two regions as well as the sampling frame. Specifically, the two regions were selected because they are amongst the big six maize-producing regions that contribute highly to the national food granary. Production of maize was used as a criterion for choosing the two regions because maize is a major staple food crop as well as cash crop grown in Tanzania and in the study areas. Maize also has enormous potential for commercialisation owing to its demand in the domestic and foreign markets. Even more significant, computations from the Ministry of Agriculture (MOA) Basic Data Booklet on Crops Sub Sector 2018/2019 indicate that from 2010 to 2019, productivity in maize production in Mbeya and Songwe regions was way above the national average (MOA, 2020). They were 2.22 tonnes/ha and 2.6 tonnes/ha, respectively, as compared to the national average, which was 1.53 tonnes/ha. Also, it is noteworthy that the two regions are well connected to the national road and railway network system and are within the Southern Agricultural Growth Corridor of Tanzania (SAGCOT). The SAGCOT is a public-private partnership that aims to further develop the Tanzania agricultural sector through agribusiness investments in the country's southern corridor.

Due to the nature of the study, purposive sampling was employed to collect primary data from 180 respondents from a population of 350 government officials employed at the local authority and ward level, who were responsible for overseeing and implementing approved agricultural plans and budgets in their localities in Mbeya and Songwe regions. The variables under investigation require respondents to possess basic knowledge, expertise, and experience regarding overseeing the implementation of government budgets in the agriculture sector. Specifically, the sample covered District Agriculture, Irrigation and Cooperative Officers (DAICOs) and agricultural

extension officers from six Local Government Authority (LGA) in the Mbeya region and four LGAs in the Songwe region. At the LGA level, the guidance of the DAICO officer was purposely used to select staff residing at the DAICO office and those residing at the ward level who were deemed informed or were knowledgeable about the key issues of interest in government budget implementation in the region and Tanzania in general.

An approach used by Tabachnick and Fidell (2007) was used to select the individual respondents in a sample size of the study as indicated below.

$N = 50 + 8m$

Accordingly, the largest independent variable (m) was used to determine the optimal sample size (N) by applying the formula. The largest independent variables were four, which are priority area budget allocation, work plan compliant budget allocation, sufficient budget allocation, and timely budget allocation. Hence, the minimum sample size using the formula was to be (N) = 50 + (8 x 4) = 82. However, large sample sizes are preferred to avoid overfitting. According to Tabachnick and Fidell (2007), overfitting refers to the production of an analysis that corresponds too closely or exactly to a particular set of data and may, therefore, fail to fit additional data or predict future observations reliably. Thus, based on this fact, 180 respondents were sampled for the interview, as shown in *Table 1*.

Table 1: The sample size by the category of respondents

Respondents	Number in Mbeya Region	Number in Songwe Region	Total Number
DAICO staff	18	13	31
WEOs	100	49	149
Grand total			180

Source: Researchers' compilation from LGAs.

A structured questionnaire was used to collect the data from the respondents in the study area. The primary data was complemented by some secondary data, specifically on agriculture and, more generally, on socio-economic development in the study areas and Tanzania.

Data Processing and Analysis Methods

The five-point scale and rating scoring system was used to collect, verify, and code data from 1 strongly disagree to 5 strongly agree. In order to obtain continuous data for quantitative analysis, the scale for each variable was first converted into scores in order to get total scale scores. Maximum and minimum values or scale scores were computed for each of the 180 respondents with respect to the number of items in a scale. Then, the

average scale scores were computed from the total scale scores to obtain continuous data for quantitative analysis. This data was subjected to descriptive statistical analysis to calculate the mean, median, mode, standard deviation, and skewness and also in the multiple regression analysis.

The value of the mean for each variable was used to measure the strength of the variable, whether it is favourable in terms of supporting the propositions in the scales or if it is unfavourable by not supporting the propositions in the scale. They were measured by interpreting means by being Weak or Strong using the Total Scale Scores as illustrated in *Table 2* whereby If M $\leq$ Mean Score = Wk; > Mean Score = St.

Table 2: Measurement of variables by interpretation of means

Variables	Items	Measurement	Interpretation of means (M) by Weak (Wk) and Strong (St)
Budget Allocations	12	Scale 12 – 60	If M ≤ 29 Wk; > 29 St
Priority areas budget allocation	3	Scale 3 – 15	If M ≤ 7 Wk; > 7 St
Work plan-compliant budget allocation	3	Scale 3 – 15	If M ≤ 7 Wk; > 7 St
Sufficient budget allocation	3	Scale 3 – 15	If M ≤ 7 Wk; > 7 St
Timely budget allocation	3	Scale 3 – 15	If M ≤ 7 Wk; > 7 St

Source: Developed by researchers

The Estimation Model

In this study, an analytical model was developed to measure the effect of government budget allocations on the market participation of maize. The model employs the multiple regression equation as presented below:

$$MAKT_i = \alpha_i + \beta_i \, PAB_{1i} + \vartheta_i WPB_{2i} \ldots + \varphi_i SBB_{ki} + \theta_i TMB_{ki} + \epsilon_i \qquad (1)$$

Where MAKT is the degree of market participation measured as proportionate change in maize market-related activities involving production, sale, and purchase of inputs; PAB is priority areas budget allocations; WPB is work plan compliant budget allocations; SBB is sufficient budget allocations; TMB is timely budget allocations; and while α_i. β_i, ϑ_i, φ_i, and θ_i Are parameter estimates, the ϵ_i is a vector of the error term, which is an independently distributed random variable with a mean of zero.

The mean and standard deviation of total scale scores from a five-point scale and rating scoring system were used to measure both the dependent and independent variables by interpreting means (M) by Weak (Wk) and Strong (St) using the Total Scale Scores as previously shown in *Table 2*.

Reliability of the Scale

Tests showed that the scale is reliable. The results yielded Cronbach's Alpha value of 0.85, which suggests there is a very good internal consistency reliability for the scale with the sample. There were no negative values in the Inter-Item Correlation Matrix, showing that the items are measuring the same underlying characteristic. The Corrected Item-Total Correlation values are all above 0.3, with the lowest at 0.604 and the highest at 0.785, thus indicating a good measure of the scale. Also, all the values of Cronbach's Alpha If Item Deleted are above 0.7, which also suggests a very good measure of the scale. In addition, they were all less than the overall Cronbach's Alpha value of 0.85, whereby the lowest was 0.801 and the highest was 0.845.

RESULTS AND DISCUSSION

The results are based on an analysis of data from 180 returned questionnaires, equal to 87.8% of 205 that were distributed in the study area. The presentation starts with results from the assessment of factors in budget allocations and expenditures variables and culminates with regression analysis results on the effects of the said variables on maize commercialisation.

Descriptive Results

Based on interpreting Means (M) by way of Weak (Wk) and Strong (St), the means for all the variables, as shown in *Table 3* below, indicate favourability. Hence, the means value suggests government budget allocations have had a positive impact on market participation of maize in the study area.

Table 3: Descriptive statistics results

	Total market participation	Total priority areas budget allocation	Total work plan compliant budget allocation	Total sufficient budget allocation	Total timely budget allocation
Mean	11.8222	9.6333	9.7333	10.6056	10.6778
Median	12.0000	10.0000	10.0000	11.0000	11.0000
Mode	8.00	11.00	10.00	12.00	12.00
Std. Deviation	3.68927	2.44012	2.55793	2.47557	2.41886
Skewness	.033	.112	-.082	-.448	-.536
Std. Err of Skewness	.181	.181	.181	.181	.181
Minimum	4.00	4.00	3.00	3.00	5.00
Maximum	20.00	15.00	15.00	15.00	15.00
(N = 180)					

Source: Researchers' computation

Conversely, the said mean scores for market participation and priority areas budget allocations have a positive skewness, meaning that the scores are clustered at low values and the standard deviation values are spread out over a large range of values not close to the mean. However, the mean scores of the remaining variables have a negative skewness, meaning that they are clustered at high values, and the standard deviation values are also spread out over a large range of values.

Regression Results

As it can be seen from *Table 4* below regarding correlation analysis, results indicate that there is a strong correlation between the independent variables (PAB, WPB, SBB, and TMB) and the dependent variable (MAKT). The Pearson Correlation values of the said independent variables are all above 3.0.

Table 4: Correlations results

		MAKT	PAB	WPB	SBB	TMB
Pearson Correlation	MAKT	1.000	.634	.559	.419	.466
	PAB	.634	1.000	.745	.559	.491
	WPB	.559	.745	1.000	.585	.607
	SBB	.419	.559	.585	1.000	.448
	TMB	.466	.491	.607	.448	1.000
Sig. (1-tailed)	MAKT	.	.000	.000	.000	.000
	PAB	.000	.	.000	.000	.000
	WPB	.000	.000	.	.000	.000
	SBB	.000	.000	.000	.	.000
	TMB	.000	.000	.000	.000	.
N		180	180	180	180	180

Source: Researchers' computation

From *Table 5* concerning the model summary, the R Square value of 0.438 shows that our model explains 43.8% of the variance in market participation. That is our independent variables explain 43.8% of the variability of our dependent variable, market participation.

Table 5: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.66[a]	.438	.425	.69930

a. Predictors: (Constant), TMB, SBB, PAB, WPB
b. Dependent Variable: MAKT

Source: Researchers' computation

An adjusted R Square value of 0.425 indicates that the true 42.5% of the variance in MAKT is explained by the predictors that are to be kept in the model. Given budget allocations are among the three key budget execution variables alongside budget disbursements and budget expenditures, the results suggest a marked influence.

Table 6: Analysis of variance results

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.691	4	16.673	34.094	.000[b]
	Residual	85.579	175	.489		
	Total	152.269	179			

a. Dependent Variable: MAKT
b. Predictors: (Constant), TMB, SBB, PAB, WPB
Source: Researchers' computation

Table 6 above shows results from the analysis of variance. The significance value of 0.000 in the ANOVA table shows that the model reaches statistical significance, i.e., $P < 0.05$.

Results on parameter estimates are shown in *Table 7* below. From the said table, the tolerance value of all variables is above 0.10, indicating that there is no problem with multicollinearity. The Variance Inflation Factor (VIF) values of all variables are less than 10, which also indicates no problem of multicollinearity.

Table 7: Parameter estimates

	Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
	(Constant)	.134	.278		.482	.630					
	PAB	.531	.099	.468	5.359	.000	.634	.375	.304	.421	2.374
1	WPB	.098	.104	.091	.947	.345	.559	.071	.054	.348	2.872
	SBB	.033	.081	.030	.411	.681	.419	.031	.023	.613	1.631
	TMB	.191	.083	.167	2.319	.022	.466	.173	.131	.617	1.620

a. Dependent Variable: MAKT
Source: Researchers' computation

Hence, if we were to predict market participation (MAKT) from the independent variables, the general form of the equation is:

Predicted market participation = 0.134 + 0.468 (priority areas budget allocations) + 0.091 (work plan compliant budget allocations) + 0.030 (sufficient budget allocations) + 0.167 (timely budget allocations).

Thus, the standardised coefficients show that for every unit increase in PAB, there is a 0.468 increase in MAKT. For every unit increase in WPB, there is a 0.091 increase in MAKT. For every unit increase in SBB, there is a 0.030 increase in MAKT, and for every unit increase in TMB, there is a 0.167 increase in MAKT. Regarding contributions of the variables, PAB has the largest contribution (0.468) to MAKT, followed by TMB (0.167), WPB (0.091) and SBB (0.030). Squaring the Part Correlation values and converting them to percentages shows that the unique contribution of PAB is 30.86%, followed by TMB at 3.64%, while the remaining variables had contributions of less than 1%.

The regression results did not yield any unusual cases. Nonetheless, even if there were unusual cases, the maximum value of the Cook's Distance of 0.122 being less than one, as shown in *Table 7* above on residual statistics, suggests there would be no major problem.

Regarding tests on null hypotheses, results on the first hypothesis that PAB has no significant effect on MAKT are rejected as the probability value,

i.e., p (.000 < 0.05). The second hypothesis that WPB has no significant effect on MAKT is accepted as p (.345 > 0.05). The third hypothesis that SBB has no significant effect on MAKT is accepted as p (.681 > 0.05). The last hypothesis that TMB has no significant effect on MAKT is rejected as p (.022 < 0.05).

Table 8: Residual statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.3474	4.3690	2.9556	.61039	180
Std. Predicted Value	-2.635	2.316	.000	1.000	180
Standard Error of Predicted Value	.059	.234	.111	.034	180
Adjusted Predicted Value	1.3098	4.3436	2.9563	.61052	180
Residual	-2.01755	1.41791	.00000	.69144	180
Std. Residual	-2.885	2.028	.000	.989	180
Stud. Residual	-2.982	2.046	-.001	1.004	180
Deleted Residual	-2.15540	1.44317	-.00078	.71294	180
Stud. Deleted Residual	-3.052	2.065	-.003	1.012	180
Mahal. Distance	.259	19.114	3.978	3.196	180
Cook's Distance	.000	.122	.006	.015	180
Centred Leverage Value	.001	.107	.022	.018	180

a. Dependent Variable: MAKT

Source: Researchers' computation

DISCUSSION OF THE RESULTS

The results show that government budget allocations have a positive influence on the market participation of maize in the study area. All the mean scores of both the independent variable and independent variables were strong. Regarding market participation, the results show that maize market participation in the study area improved due to government budget execution. That is, there was an improvement in agricultural market-related activities involving the sale of maize and the purchase of inputs for increased income and maize crop productivity. Specifically, there was an increase in the number of agricultural inputs businesses, an increase in the number of maize farmers purchasing agricultural inputs, an increase in the number of farmers selling maize in the market, and an increase in the large volume of maize sold in the market. These results align with empirical studies on agricultural commercialization by Pradhan et al. (2010), Otekunrin et al. (2019), and Mutabazi et al. (2013). The scholars showed that government investments in soft and hard infrastructure, such as agricultural extension services, collection centres, storage infrastructure and roads, promote the commercialisation process or market participation.

Regarding budget allocations, the results show that budget allocations addressed national priority investment areas, were work plan compliant, were sufficiently allocated and were allocated timely. The results also align with empirical studies on budget execution. The studies by Olurankise (2013), Mungai and Nasieku (2016), WB (2011) and MALF (2017) showed that poor budget implementation, including inadequate budget allocations, is a major cause for governments not realising policy development goals and objectives. Hence, the mere fact that budget allocation variables were strong is the reason why all the independent variables had a positive influence on maize market participation despite the fact that some of them, i.e. work plan compliant budget allocations and sufficient budget allocations, were not statistically significant. In addition, the contribution of priority areas budget allocations (PAB) to maize market participation was 30.86%, and timely budget allocation was 3.64%.

Thus, the assertions in the Maputo Declaration of 2003 and Malabo Declaration of 2014 hold ground that governments need to allocate enough resources to agriculture in their national budgets in the magnitude of at least 10% in order to effectively transform their agricultural sectors

from amongst others subsistence agriculture to commercial agriculture. The results also support arguments put forward by Premchand (1994) that despite budget execution being an area often neglected in government financial management, it is a very important process to help governments realise their policy development targets and objectives. Hence, budget allocations within government budgetary execution need to be given close attention. Why?

As earlier put forward by Pradhan et al. (2010) and Mutabazi et al. (2013), governments need to invest in soft and hard infrastructure like extension services, roads, collection centres, and storage facilities to ensure efficient functioning of agricultural markets, efficient market linkages and high-speed exchange logistics, all of which are important for agricultural commercialisation. Thus, adequate budget allocations within government budget execution are inevitable to realise those investments. However, the good results in the study area do not erase the fact that budget allocations in Tanzania and most African countries for implementing agricultural development initiatives have not been adequate, as pointed out in WB (2011), Mogues (2012) and MALF (2017). Hence, the results should be taken with caution.

The results, as mentioned earlier, have shown that priority areas budget allocations have had the largest contribution to the effect of budget allocations on market participation, followed by timely budget allocations. These results clearly show that these two are factors that are very worth considering when making budget allocations. Sufficient or adequate budget allocations alone will not have a great influence if the funds are not allocated to priority investment areas if they are not allocated timely and do not consider work plans. Hence, when doing budget allocations, responsible entities should ensure that not only resources are sufficient but also address priority investment areas and institutional work plans as well as being timely manner. This if done, will be putting into practice Walker's progressive budget theory whereby government budget allocations

should be based on the indifference point in economic theory (Khan & Hildreth, 2002). That is to say, and the indifference point was a measure of current expenditures as an expression of balance between citizen demand and government service provision. Moreover, budget allocations based on the factors discussed above would also help to address the challenges that lead to poor budget execution, as pointed out in WB (2011), Olurankise (2013), Mungai and Nasieku (2015) and MALF (2017).

Therefore, budget allocations have had a positive influence on market participation of maize in the study area. In that tune, government allocations within government budget execution are very important and should be given close attention during the planning and execution of government budgets intended to transform agriculture from subsistence to commercial agriculture.

CONCLUSION AND RECOMMENDATION

From the results and discussion, the researchers have reached the following conclusions based on the objectives of the study. First, government budget allocations in the Southern Highland regions of Tanzania have shown a positive influence on market participation of maize. In addition, the findings support the long-standing assertion that governments should allocate at least 10% of their national budgets to agriculture to, amongst others, effectively support agricultural transformation from subsistence to commercial agriculture. Second, two crucial factors to be considered during government budget allocations are allocations based on addressing priority investment areas and timely allocation. Other factors include addressing institutional work plans and making sufficient allocations in that order. Third, the influence of budget allocations within government budget execution on market participation of maize is very good alongside budget disbursements and budget expenditures. Therefore, the conclusions prove that effective and efficient budget allocations within government budget execution are crucial in achieving government development goals and objectives, including the transformation of

agriculture from subsistence to commercial, as has been evidenced in its influence on market participation in the study area.

Based on the conclusions of the study discussed above, the researchers recommend some general and specific recommendations as follows. The government should strengthen the budget execution process and feedback mechanism both at the central level and at the local level. In addition, the government should consider using the factors in budget allocations discussed in this study as among the criteria in the formulation and implementation of the budget at all levels. Moreover, interventions supporting maize commercialisation should be given high priority in the annual work plans and budgets at all levels of government, particularly in local authorities where maize has high commercialisation potential. Additionally, the government officials in local authorities responsible for planning, budget implementation, monitoring and evaluation should strive to make sure that government budget allocations are based on priority investment areas, are compliant with work plans, and are sufficient and timely allocated. Lastly, the research of this study recommends the following area for further research: How have recurrent expenditure and development expenditure affected maize commercialisation in Tanzania? This would yield further insights on how to improve budget execution from a public expenditure side.

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