



**An In-depth Analysis of Zambia's Agricultural Budget:
Distributional Effects and Opportunity Cost**

by

*Auckland N. Kuteya, Nicholas J. Sitko, Antony Chapoto, and
Emma Malawo*

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Lusaka, Zambia
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The Indaba Agricultural Policy Research Institute is a non-profit company limited by guarantee and collaboratively works with public and private stakeholders. IAPRI exists to carry out agricultural policy research and outreach, serving the agricultural sector in Zambia so as to contribute to sustainable pro-poor agricultural development.

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Any views expressed or remaining errors are solely the responsibility of the authors.

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EXECUTIVE SUMMARY

Pro-poor budgets tend to achieve two things: 1) they tend to invest in public goods that generate long-run returns that benefit both the poor and the rich. These include research and development (R&D) investments, public education, and infrastructural investments; 2) they tend to invest in ways that help the very poor households overcome persistent asset constraints, thereby creating opportunities to exit entrenched poverty traps. These may also include well-targeted safety nets such as the Food Security Pack to address poverty and food insecurity and the Social Cash Transfer Scheme to help the most destitute, incapacitated and poor households to enable them meet basic needs. Unfortunately, these critical preconditions have been given little consideration as the focus in Zambia has been on aggregate growth rather than the substance of spending.

The main objective of this paper was to examine and unpack the distributional effects of current government spending and to highlight ways in which spending could be redirected to achieve superior poverty reduction and welfare outcomes.

The specific objectives of the paper were:

- i) Examine Zambian agricultural spending against alternative spending strategies that have achieved pro-poor growth;
- ii) Examine the extent to which current spending approaches to agriculture engage with the opportunities and constraints facing the majority of the rural poor;
- iii) Assess budget releases versus allocations and the implications on agricultural growth;
- iv) Establish whether the rural poor households are benefiting from the current government spending; and
- v) Identify viable alternatives to maximize income opportunities for the rural poor, given their attributes/profile.

The study highlights three main findings:

First, Zambia's agricultural budget is myopically focused on achieving a national maize security objective, which in the process ignores the conditions under which most rural people live such as big prevalent of very low household incomes, small landholdings, high maize market concentration, and poor infrastructure. For the past seven years, the Zambian Government, through the Ministry of Agriculture, has been spending on average 80% of the agricultural budget on input subsidies through the Farmer Input Support Programme (FISP) and output price support through the Food Reserve Agency (FRA). This means the use of public resources in the agricultural sector has virtually remained the same over the years, with a bias towards maize input and output market subsidies. Such a myopic focus on maize self-sufficiency has failed to address the problem of high rural poverty, low agricultural productivity, and high malnutrition in the country.

Second, biased spending by the Ministry of Agriculture distorts the market and this leads to *crowding out* private sector investments both in the input and output markets. Given limited funding, subsidy programs do not only drain the national treasury, but are also financially unsustainable in the long run.

Third, based on household income, there are three different categories of farmers: the extremely poor (those living below US\$1.25 per day per capita); the poor (those living between US\$1.25 and US\$2); and the non-poor (those living above US\$2/day/capita). The majority of the farming households (71.2%) fell under the extremely poor category.

Therefore, subjecting all the rural households to same conditions disadvantage those who are relatively weaker and poorer. Also, assuming that government subsidy programs will help move the majority out of poverty disregarding who is benefiting from such program will continue to result in sub optimal results.

To achieve meaningful pro-poor growth, there is need for structural change that take into consideration different needs of farmers according to their income categories. Moreover, high spending on FISP and FRA is done at the expense of investments in core productive areas such as research and development, extension services, irrigation, livestock development, and rural infrastructure (feeder roads and rural electrification).

As a way forward, there should be intentional effort to promote agricultural diversification that take into account the fact that most smallholder farmers have small plots, so promotion of high value crops such as horticulture is a pathway to meeting the income needs of a greater share of the rural population. Such a strategy should be accompanied by having functional food markets to allow poor farmers to move away from maize production. In addition, there is need to investment more in effective extension, credit systems, and physical infrastructure such as feeder roads.

The government could leverage private sector resources by promoting Public Private Partnership, especially in areas that the private sector has a comparative advantage, for example investments in storage facilities. Also, the development of a vibrant private sector led certified warehouse receipt system should continue to be supported, as this has a potential to help farmers with liquidity challenges as well as promote crop productivity among smallholder as farmers access to credit to buy critical yield enhancing inputs.

Last but not least, to achieve tangible results on poverty reduction, there is need to revamp the targeting mechanisms that currently tend to favor the wealthier farmers. Not all rural households are poor hence putting the households into unique groups and tailor marking the support may result into change.

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ACRONYMS

ACF	Agricultural Consultative Forum
CAADP	Comprehensive Africa Agricultural Development Programme
CFS	Crop Forecasting Survey
CSO	Central Statistical Office of Zambia
FAO	Food and Agriculture Organization of the United Nations
FRA	Food Reserve Agency
FSP	Fertilizer Support Programme
GTAZ	Grain Traders Association of Zambia
GRZ	Government of the Republic of Zambia
Ha	Hectare
IAPRI	Indaba Agricultural Policy Research Institute
KG	Kilogram
MAL	Ministry of Agriculture and Livestock
MAZ	Millers Association of Zambia
MDG	Millennium Development Goal
MMD	Movement for Multiparty Democracy
MoFNP	Ministry of Finance and National Planning
PE	Personnel Emoluments
PF	Patriotic Front
PHS	Post-Harvest Survey
PPP	Purchasing Power Parities
PRP	Poverty Reduction Programme
RALS	Rural Agricultural Livelihood Survey
R&D	Research and Development
RDC	Recurrent Departmental Charges
UNIP	United National Independence Party
USAID	United States Agency for International Development
US\$	US Dollar
WFP	World Food Programme
ZNFU	Zambia National Farmers Union

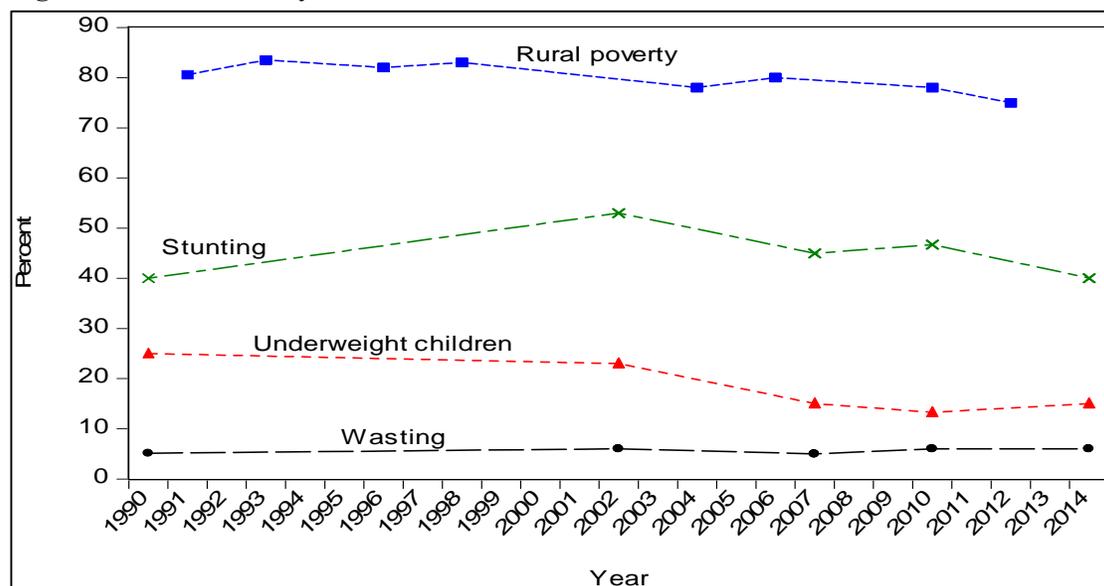
*“Agriculture offers the most promising prospects for Zambia’s accelerated and sustainable development as well as reducing poverty but productivity levels especially among small-scale farmers who form the bulk of the country’s agriculture sector is still poor,” Hon. Alexander Chikwanda, Finance Minister (quoted in the *Zambian Post Newspaper* April 16, 2013).*

1. INTRODUCTION

Over the last decade, Zambia has achieved substantial agricultural and economy wide growth. Between 2000 and 2014, Zambia attained gross domestic product growth rates of approximately 7%, making it one of the fastest growing economies in the world. As a consequence, urban poverty rates declined from 56% in 1998 to 27.5% as of 2010 (CSO 2010). For the agricultural sector, the average growth rate between 2011 and 2014 was 3.5%. Since 2009, the country has seen consecutive years of significant surplus production in maize, above 2.5 million tonnes annually. In addition, Zambia has been self-sufficient in wheat in most years since 2008, the only African country to achieve this. Besides crops, there has been expansion of large-scale animal production facilities in the country leading to upward trend in the population of cattle, goats, pigs, and chicken over the last decade. Cattle production is reported to have increased by 152% between 2001 and 2013, while goats increased by 361% between 2009 and 2013 (MAL 2014a)

Despite these laudable achievements, poverty rates (approximately 75%) and nutrition indicators in rural Zambia have remained virtually unchanged. The Minister of Finance Hon. Alexander Chikwanda attributed small-scale farmers’ persistent poverty, despite working hard, to low crop yields (The *Zambian Post* 2013). Stunting levels in children under five years of age are alarming at 40% as of 2014, well below the Millennium Development Goal (MDG) of 20%. Similar outcomes are seen for wasting, which by 2014, stood at 6% against the MDG target of 2.5%, and underweight children, which stood at 15% by 2014 against the MDG target of 12.5% (Figure 1).

Figure 1. Rural Poverty Levels and Child Nutrition Status in Zambia



Sources: CSO/MAL/IAPRI 2012; CSO various years; CSO 2010.

Moreover, economic inequality measured in terms of the Gini coefficient for income has remained the same in fifteen years at 0.64 in 2001 and 2015. This remains a worryingly high level of income inequality. When economic opportunities are concentrated in the hands of a few, the prospects for economic growth to drive down poverty are limited. Sustained growth without a significant reduction in rural poverty and income inequality represents the fundamental paradox facing policy-makers in Zambia.

The quality of agricultural public spending plays a major role in rural poverty reduction. Evidence shows that in predominantly agrarian countries like Zambia, agricultural growth is more likely to involve and benefit the poor than non-agricultural growth since the majority of the poor work in agriculture (FAO 2012). Yet, aggregate growth alone is unlikely to automatically translate into reductions in poverty. Instead, certain preconditions must be met. The literature on *pro-poor* agricultural growth suggests that in order to use agriculture as an engine for poverty reduction, public spending must be cognizant of land and productive assets constraints, fairly poor market access conditions and unpredictable weather Fan, Gulati, and Thorat (2007). Timmer (2005) shows that the provision of public goods, through investments in agriculture research and development, extension services, and rural infrastructure, are key to achieving long-term agricultural growth and poverty reduction.

Broadly speaking, public spending is likely to support reduction in rural poverty if there is coordinated investment in public goods that generate long-run returns to benefit both well-off and poorer households. For the poor, these investments help them to overcome persistent asset constraints, thereby creating opportunities to exit entrenched poverty traps. Despite issues of agricultural growth being elevated in policy discourse at the African Union and national level through policy frameworks such as the Comprehensive African Agricultural Development Programme (CAADP), these critical preconditions are rarely acknowledged. Instead, these frameworks focus on quantitative measures rather than the quality of government spending. For example, CAADP requires that countries spend at least 10% of their budgets on agriculture but does not track where this money is allocated. Most countries in the region including Zambia have been devoting a large portion of their agricultural budgets to subsidy programs that have been shown not to benefit the poorer households.

In an effort to better inform agricultural policy strategies in Zambia, and to translate growth into measurable poverty reduction, this paper seeks to unpack the distributional effects of current spending and to highlight ways in which spending could be redirected to achieve superior and broad-based poverty reduction and welfare outcomes. More specifically, this paper will:

- i) Examine Zambian agricultural spending against alternative spending strategies that are known to lead to pro-poor growth;
- ii) Examine the extent to which current public spending on agriculture engage with the opportunities and constraints facing the majority of the rural poor;
- iii) Assess budget releases versus allocations and its implications on agricultural growth; and
- iv) Identify viable alternatives to better maximize income opportunities for the rural poor, given their attributes/profile.

This paper will show that a fundamental reason for the seeming paradox between positive growth and a lack of poverty reduction is due in large measure to decades of public spending that has systematically ignored the needs of the rural poor. In particular, since independence

Zambia has pursued a maize centric policy aimed at achieving national maize self-sufficiency but stifling agricultural diversification that has potential to make the country the food breadbasket in the region as well as move more rural people out of poverty. The urgency of the questions underlying this analysis is elevated in the context of current economic headwinds in Zambia, where rapid decline in global copper prices have exposed the fragility of Zambia's economy and is erasing many of the economic gains made over the last decade. Therefore, the need to identify pro-poor economic diversification strategies has never been higher in Zambia.

The paper is organized as follows: following the introduction is the data and methods. Section 3 discusses the attributes of rural farmers in Zambia. In addition, the literature on which public investments have been found to have more impact on rural poverty reduction is reviewed. Zambia's agricultural budgets and their implications in poverty reduction are reviewed in section four. Section five, examines why the different governments continue to pursue the policy of national maize self-sufficiency at the expense of agricultural diversification that takes the comparative advantage of different areas to enhance agricultural growth as well as have meaningful rural poverty reduction. The paper closes with the conclusion and policy options.

2. DATA AND METHODS

2.1. Data Sources

Data for this paper came from various sources. The paper uses household survey data from the Indaba Agricultural Policy Research Institute's Rural Agricultural Livelihoods Surveys of 2012 and 2015 data sets to identify the key attributes of rural households in Zambia. Agricultural budget allocations for various years are obtained from the Yellow Books published by the Ministry of Finance and National Planning (MoFNP). To assess the implementation of these agricultural budgets, we compare the allocated amounts against what is actually released, including supplementary funding to Farmer Input Support Programme (FISP) and Food Reserve Agency (FRA). This enables us to have a holistic picture of spending priorities within the agricultural sector. These data are obtained from the MoFNP via the Ministry of Agriculture and Livestock (MAL). Looking at both the budgeted and released amounts helps to measure whether agricultural budgets are in line with national policy objectives on poverty reduction.

In addition to the annual budgetary figures, we conducted interviews with selected key stakeholders in the agricultural sector to get their views about the agricultural budgets in terms of addressing rural poverty and the unique needs of the poor. Among these included officials from MAL, MoFNP, Zambia National Farmers Union (ZNFU), Grain Traders Association of Zambia (GTAZ), Millers Association of Zambia (MAZ), Centre for Trade and Policy Development (CTPD), and World Food Programme (WFP).

To determine the characteristics of rural households by poverty status, we used the CSO/MAL/IAPRI Rural Agricultural Livelihood Survey (RALS) data sets of 2012 and 2015. This panel data was collected by the Indaba Agricultural Policy Research Institute (IAPRI) in collaboration with Central Statistical Office (CSO) and Ministry of Agriculture (formerly Ministry of Agriculture and Livestock). In addition, we used the CSO's Post-Harvest Surveys (PHS) and MAL/CSO annual Crop Forecast Surveys (CFS). All these datasets help to provide comprehensive data on smallholder households that can be used in policy formulation.

The household income figures used to measure poverty levels are comprised of total crop income, income from live and slaughtered livestock and poultry sales, the gross value of milks and eggs produced, and income from formal and informal (wage/salaried) employment, pensions, business activities, and remittances and gifts received at the household level and in per household member terms (Mason and Tembo 2015). The household income covers the period 1st May to 30th April. For example, for RALS 2015, income was calculated for the period 1st May 2014 to 30th April 2015. After adjusting for inflation using the Consumer Price Index, the kwacha values were converted to United States dollar equivalent using the 2014 Purchasing Power Parities (PPP) conversion factor for private consumption. The PPP conversion factor for private consumption was equal to approximately 5.498 kwacha per US Dollar (US\$) in 2014.

Following the US Agency for International Development's (USAID) Feed the Future Indicators guidelines and based on household income¹, rural farming households were categorized into 3 groups: 1) extremely poor if they lived on less than US\$1.25/capita/day; 2) poor if they lived on between US\$1.25 and US\$2 per capita per day; and 3) non-poor if they

¹ Shortcomings of HH income based poverty measures—or rather appropriateness of our income measure especially for rural households.

lived above US\$2 per capita per day. It is worthy to note that the World Bank has revised the poverty line to US\$1.90 per capita per day, but in this paper we used US\$1.25/capita/day because at the time of data collection, the World Bank had not yet revised the figure and given the high poverty rates in Zambia, raising the poverty line worsens the situation.

3. EXAMINING RURAL POVERTY

3.1. Common Attributes of Rural Poor in Africa

While the World Bank poverty line of \$1.90 (at 2011 PPPs) or \$1.25 (at 2005 PPPs) per capita per day is frequently used to measure the rate of poverty in developing countries, this can mask some of the underlying structural characteristic of the poor. In rural Africa, poor households certainly suffer under conditions of severe income constraints. However, this is compounded by a small asset base, including land, which makes exiting a cycle of poverty through agricultural production difficult and causes many to depend on markets or aid to overcome household food deficits. In addition, the rural poor in Africa disproportionately lack access to basic services, such as water, education, and health care. Because of chronic underinvestment in rural services, the rural poor tend to have less education, larger families, and higher preventable disease burden. The experience of poverty in rural Africa is made worse by poor governance which include the systematic misallocation of a country's resources away from the needs of the poor (Valdés et al. 2011). Understanding how these regularities in rural Africa are or are not experienced in Zambia is critical for understanding both the experience of poverty in rural Zambia and its relationship with public expenditure.

3.2. Zambian Smallholder Conditions of the Poor

In many ways, the broader experiences of rural poverty in Africa are evident in Zambia. Using RALS 2015, the majority, 71.2%, of the smallholder households are extremely poor with only 17% qualifying as non-poor (Table 1 column B). The level of education for the extremely poor is seven years on average (column C), while the average household size is six members per household (column D). Their asset base is nearly half of those classified as poor households and a ninth of the non-poor households.

Table 1. Household Characteristics by Income Groups in Zambia, 2015

Smallholder households categories	Share of smallholder population (%)	Level of education (years)	Average household size	Value of all assets (K)	Share of off-farm income to total income	Proportion of female-headed households (%)
A	B	C	D	E	F	G
Extremely-poor (<\$1.25)	71.2	7	6	4,670	29.4	28.4
Poor (≥\$1.25 <\$2)	11.7	8	6	9,996	36.1	19.9
Non-poor (>\$2)	17.1	10	6	44,232	61.1	17.7
All Households	100	8	6	12,050	36.4	25.6

Source: CSO/MAL/IAPRI 2015.

A low asset base not only limits the poor's ability to improve productivity and labor efficiency, it also elevates their risk, as they have few assets to sell in cases of catastrophe. The share of off-farm income to total income is higher (61%) among the relatively better off farmers while for the extremely poor it's only 29% (column F). These results support conclusions by Barrett, Reardon, and Webb (2001) who found that poor households in Africa are excluded from off-farm income sources more than other regions. The implications of these results are that the poor rely more on agricultural income than better off farmers who have more diversified income sources. Of the female-headed households, the majority are in the extremely poor category with roughly 28% compared to 18% for the non-poor (column G). Thus, in many ways extreme poverty in Zambia is a gendered phenomenon.

Table 2 shows that the vast majority of farmers, regardless of income status, grow maize. On average, the extremely poor in Zambia face significant land constraints, cultivating on average 1.7 hectares, with roughly 59% of this land (1.0 hectares (Ha)) dedicated to maize production. Their maize yields are relatively lower, at 1.9 MT/Ha compared to about 2.8 MT/ha among the non-poor households (column G). The low yields among extremely poor household could be due to the inability of the households to afford improved technology such as use of fertilizer. For example, only about 65% of the extremely poor households reported using fertilizer compared to about 80% among non-poor households (column F). Consequently, despite the majority of very poor farmers growing maize, many are maize net buyers. Column H of Table 2 shows that the proportion of net buyers of maize is highest among the extremely poor households, about 37% compared to 29% among non-poor households.

Taken together, this suggests two key points. First, despite having limited available land, the majority of poor farmers' land is dedicated to the production of low value staple food. As will be seen later, this is partially the result of public spending that incentivizes maize production. Even under significantly higher productivity levels, maize production is unlikely to provide a means out of poverty for these land constrained farmers. Second, while agricultural spending often seeks to improve farm gate price for commodities, evidence from Zambia and elsewhere in Africa shows that because many of the poor are net buyers of food, they would benefit more from lower average food prices that result from functional food markets rather than higher producer prices.

Table 2. Household Characteristics Based on Income Categories

Smallholder households categories	Share of households growing maize (%)	Cultivated land size (Ha)	Maize hectares planted (Ha)	Share of households using hybrid seed (%)	Proportion of households using fertilizer (%)	Average maize yield (Kg/Ha)	% of maize net buyers (%)
A	B	C	D	E	F	G	H
Extremely-poor	85.8	1.7	1.0	55.5	65.1	1,913	36.6
Poor	90.4	2.7	1.5	72.0	74.0	2,421	30.0
Non-poor	88.7	3.3	2.1	78.3	80.1	2,816	28.9
All Households	86.8	2.1	1.5	61.5	68.8	2,132	34.5

Source: CSO/MAL/IAPRI 2015.

Table 3 shows the percent of households by poverty category at various percentiles of the distribution ranked by distances traveled to key public services by rural households. The results in Table 3 show that the different types of households irrespective of poverty status stay together. For example, from the nearest to the furthest distances travelled to the different location or services, we find all types of households in almost equal percentages. This suggests that any interventions that assume otherwise would not achieve optimal results because both poor and non-poor rural households live in the same communities. Therefore, strategies that harness the spillovers from the different types of households would likely lead to more sustainable poverty reduction.

In summary, evidence reveals that the Zambian smallholder households, among other factors, are land constrained with the majority cultivating on average 1.7 hectares of land. For these land-constrained households, maize is unlikely to move them out of poverty even with exceptional gains in productivity and marketing conditions. For public spending to have a meaningful impact on rural poverty, it needs to engage with the conditions under which smallholder households operate. In other words, it needs to be cognizant of land and asset constraints, and fairly poor access conditions to public services and market.

Table 3. Access to Public Goods by Smallholder Households

Smallholder households categories		Households percentile groups based on distance traveled				
		10 (Nearest)	25	50	75	90 (Furthest)
To boma (Row % of households)						
Extremely-poor	A	16.7	21.7	16.3	23.3	22.0
Poor	B	17.4	24.0	16.7	21.0	20.8
Non-poor	C	25.3	19.5	17.2	17.8	20.1
All Households	D	18.3	21.6	16.5	22.1	21.5
To paved road (Row % of households)						
Extremely-poor	E	18.4	17.2	21.2	21.7	21.5
Poor	F	23.6	17.2	22.4	20.2	16.5
Non-poor	G	29.9	16.9	20.2	17.1	15.9
All Households	H	21.0	17.2	21.2	20.7	19.9
To nearest clinic health centre (Row % of households)						
Extremely-poor	I	18.4	19.8	19.1	23.8	19.0
Poor	J	18.4	20.0	18.1	22.6	20.8
Non-poor	K	24.0	20.0	20.9	19.1	16.0
All Households	L	19.4	19.9	19.3	22.8	18.7
To nearest electricity supply (Row % of households)						
Extremely-poor	M	20.0	18.7	18.8	21.5	21.0
Poor	N	24.2	15.4	20.0	22.2	18.2
Non-poor	O	33.5	16.7	15.7	18.1	16.0
All Households	P	23.0	17.9	18.4	20.9	19.8

Source: CSO/MAL/IAPRI 2015.

3.3. Public Investments That Have Addressed Rural Poverty Elsewhere

What does the evidence from other parts of the world tell us about the relationships between public spending and poverty reduction? Broadly speaking, there are two major components of a more pro-poor public spending strategy. The first component focuses on labor productivity improvements. There is no single country that has been able to sustain a rapid transition out of poverty without first raising agricultural labor productivity (Timmer 2005). Increasing agricultural labor productivity helps to improve farm yields and frees up household labor to engage in non-farm and educational activities (Klasen 2006). Diversification into higher value crops and activities, coupled with improved technology access and utilization are all ways in which labor productivity can be improved (Thurlow and Wobst 2004).

The second component, which is related to the first, is investment in public goods. Fan, Gulati, and Thorat (2007) in their study of investments and pro-poor growth in rural India concluded that agricultural research, education, and rural roads are the three most effective public spending items in promoting agricultural growth and poverty reduction. The study revealed that agricultural research, education, and infrastructure development have large growth and poverty reduction impact. Although Zambia's agricultural spending has been biased towards two subsidy programs (input and output subsidies), in India, these subsidies have proved to be unproductive and financially unsustainable, and contributed to increased inequality among rural Indian states (Fan, Gulati, and Thorat (2007). These findings are supported by Filipski and Taylor (2011) who concluded that raising the welfare of agricultural households requires a focus on the production function itself, by developing and disseminating technological innovations that raise farm productivity.

Filipski and Taylor (2011) noted that carefully designed input subsidies could contribute to poverty alleviation to smallholder farmers in the short run but these subsidies, in addition to being costly, become less effective in the long run as diminishing marginal returns to the subsidized input set in.

With this background, we now examine Zambia's agricultural budget in detail.

4. ZAMBIA'S AGRICULTURAL BUDGET AND POVERTY REDUCTION

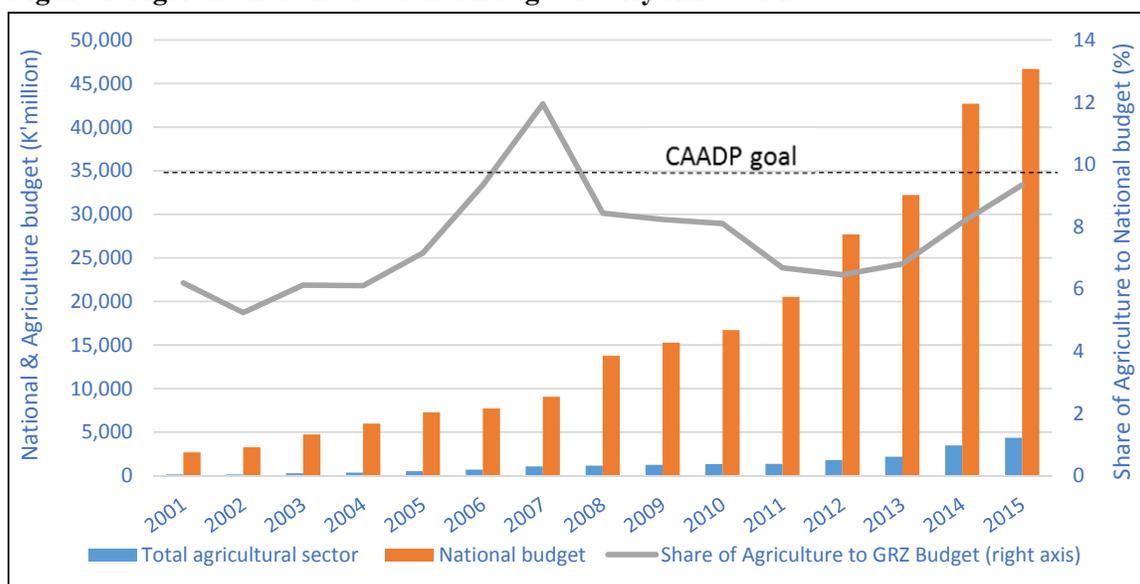
4.1. General Budgetary Trends and Allocations

Since public sector reform in 1993, Zambia has been operating on a 'cash budget system'. A cash budget is a plan of expected cash receipts and disbursements for a specific period of time, usually a year in the case of Zambia. Cash inflows and outflows include revenues collected, expenses paid, and loans receipts and payments. Figure 2 shows that annual budgetary allocations for both agricultural and national budgets have grown over time. However, the line graph generally shows that spending on agriculture has not kept pace with spending growth of the national budget. In 2007, the proportion of agriculture to national budget went above the CAADP target of 10%. This was mainly because of supplementary spending on Fertilizer Support Programme (FSP) and FRA. The proportion of the agricultural budget has remained below the 10% CAADP target in most years. However, as mentioned earlier the quality of expenditure is key to achieving broad-based agricultural growth with long lasting effects on rural poverty. Nevertheless, having a sustained 10% allocation to the agricultural sector would be a significant initial step to having more resources to the sector. If this is then followed by targeting public spending to key agricultural areas that directly affect the extremely poor, Zambia would start seeing meaningful rural poverty reduction.

4.2. Agricultural Budgetary Breakdown

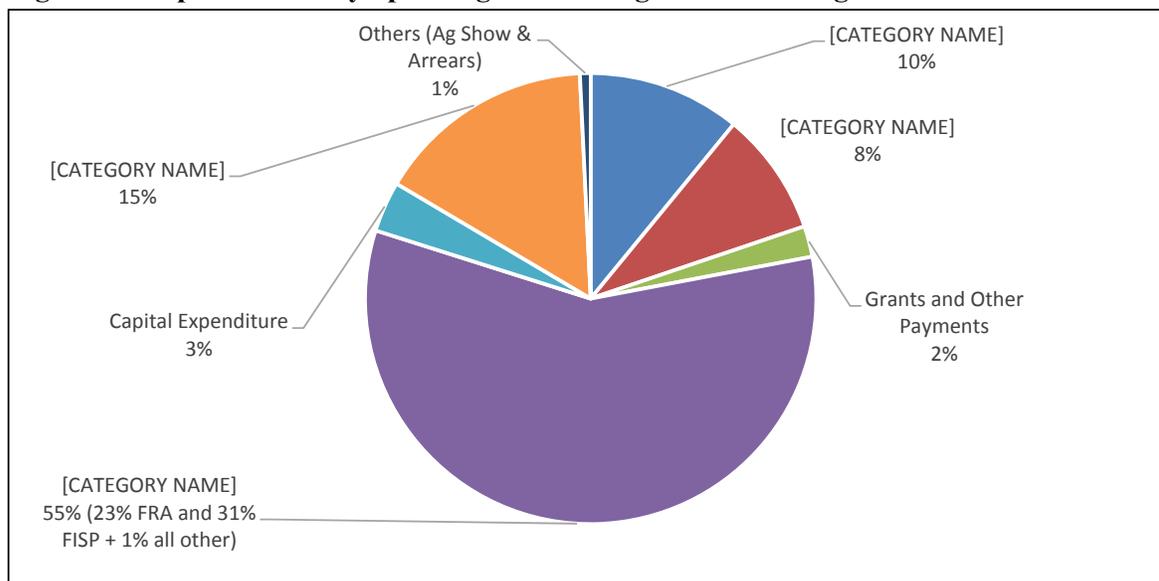
The current agricultural budget structure comprises six key spending components with each broken down further into sub-programs. The six major components are: 1) Personnel Emoluments (PEs), which are salaries and wages for the ministry staff; 2) Recurrent Departmental Charges (RDCs), which are operational funds in the form of supplies and other operational requisites; 3) Poverty Reduction Programmes (PRPs), which have mainly been dominated by FISP and FRA; 4) Agricultural Development Programmes, which are mainly donor funded; 5) Capital Expenditure; and 6) Grants/other payments.

Figure 2. Agricultural and National Budget Yearly Allocations



Source: MoFNP various years.

Figure 3. Proportion of Key Spending Areas to Agricultural Budget in 2015



Source: MoFNP various years.

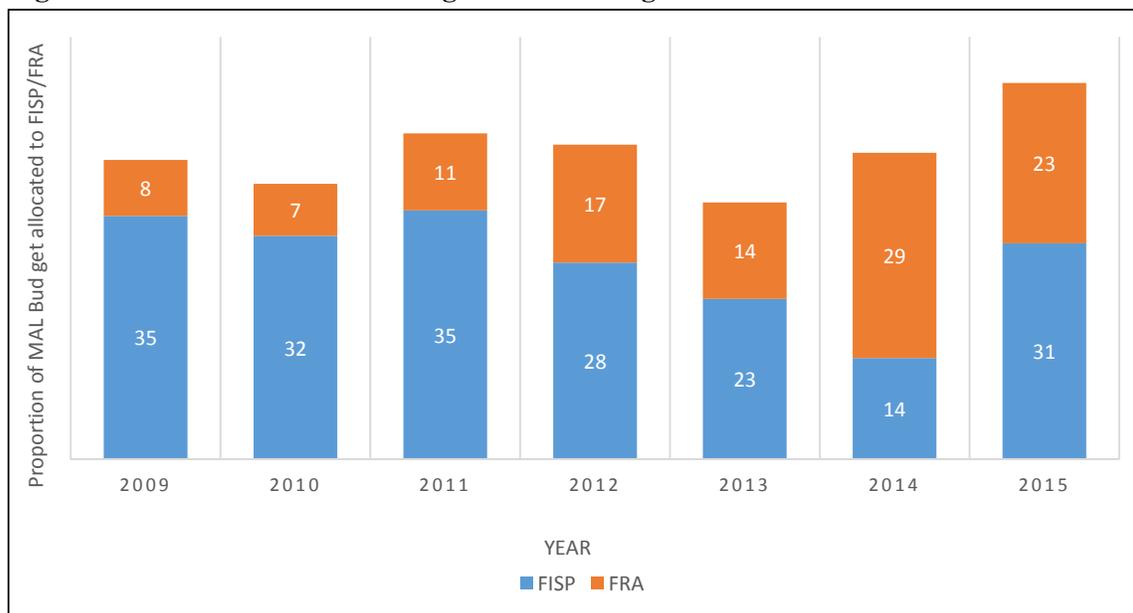
With regards to the share of what goes to these key spending areas, the budget allocations for 2015 (Figure 3) is indicative of the previous years. The figure clearly shows that more than half of the budget for the Ministry of Agriculture goes to maize subsidy programs through the FISP and FRA. Given this spending focus and concerns about the effects of subsidies raised earlier, we will explore this spending focus in more detail below.

4.3. FISP and FRA Spending and Beneficiaries

Since 2002/03, the government through the Fertilizer Support Program (FSP, 2002/03 to 2008/09), and its successor, the Farmer Input Support Program (FISP, 2009/10 to present), has been supporting smallholder farmers through the provision of subsidized fertilizer and hybrid seed maize as well as providing maize price support by buying maize from smallholder farmers through the FRA. The combined budget allocation to the FISP and FRA ranged between 37 to 60% of the total budget to the Ministry of Agriculture depending on the year (Figure 4).

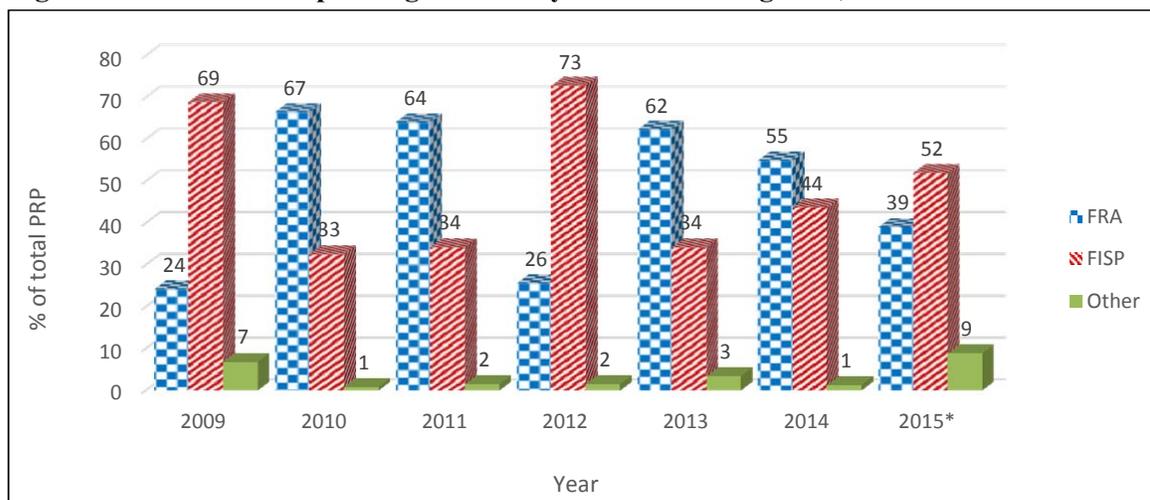
The PRPs in Zambia include spending on livestock disease control, research, and development, irrigation, FISP and FRA. More than 93% of the PRP allocation has been spent on FISP and FRA. Apart from 2009 where 7% of the PRP budget was allocated on other programs, spending on FISP and FRA took over 97%. An extreme case was recorded in 2010 where only 1% of the PRPs were left for other poverty reduction sub-programs (Figure 5). This clearly demonstrates how maize production and marketing subsidizes have been crowding out other key investments under PRPs.

Figure 4. Share of FISP/FRA to Agricultural Budget Allocations from 2009 to 2015



Source: MoFNP various years; MAL various years.

Figure 5. Government Spending on Poverty Reduction Programs, 2009-2014



Source: MAL various years.

Note: * Releases by Sept 2015.

Despite being categorized as *poverty reduction programs*, both FISP and FRA often have regressive socio-economic effects. FISP, for example, is marred with poor targeting in terms of reaching the poorest households. FISP fertilizer has disproportionately been targeted to households that have relatively large land size, greater capital assets, and larger incomes.

Indeed, as shown in Table 4, FISP and FRA tend to benefit or favor the non-poor more than the poorer households. Based on household income groups, only 25% of the poorest households received FISP fertilizer compared to 45% among the better off farmers (column B). Column C reveals that the non-poor acquired on average 146 kilograms (kg) of fertilizer from FISP while the extremely poor accessed only 57 kilograms of fertilizer per household.

Table 4. FISP Fertilizer, Maize Sales to FRA and the Maize Net Buyers

Smallholder households categories	Percent of households receiving FISP fertilizer (% of total income category)	Total quantity of FISP in Kgs	Maize produced in 50 Kg bags	50 Kg bags of maize sold to FRA	Maize net buyers (%)
A	B	C	D	E	F
Extremely-poor	25.4	57	23	7	21.1
Poor	39.2	109	49	24	2.6
Non-poor	44.5	146	92	53	3.6
All Households	30.2	78	38	16	27.3

Source: CSO/MAL/IAPRI 2012.

This is in part a result of FISP targeting guidelines that prevent land constrained households (mostly poor households) from accessing the inputs (Burke et al. 2011).

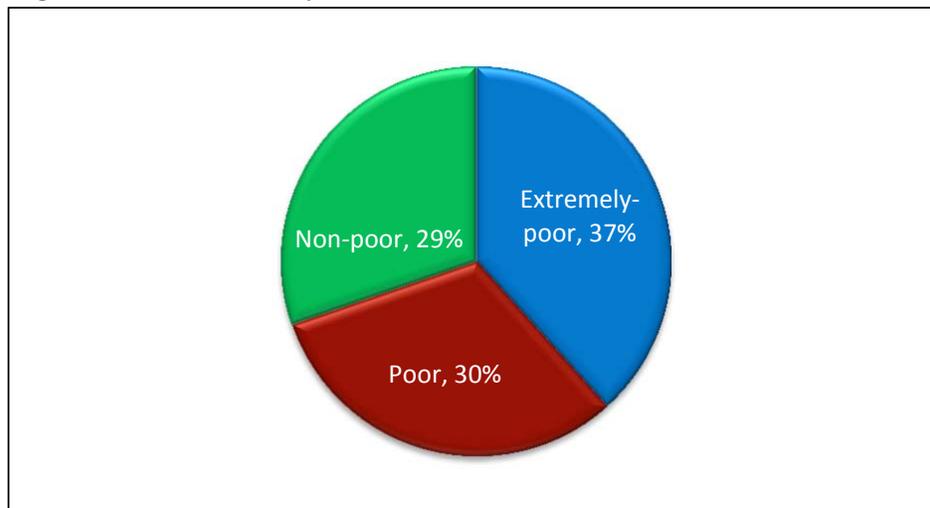
In addition to targeting challenges, the emphasis on maize production disadvantages the poorest farmers. Returns to maize production per unit of land are low compared to horticultural and high value crops (Hichaambwa, Chamberlin, and Kabwe 2015). Therefore, the traditional FISP with its current targeting, it is doubtful that it will have meaningful contribution to rural poverty. If anything, the program exacerbates inequality because the poorer households are not targeted in large numbers.

Buying maize through FRA has also been a huge public expenditure program with little impact of poverty reduction or productivity. With the intention of helping all smallholder farmers, the government spends huge amounts of public funds in supporting the maize market but only 41% actually afford to supply maize to FRA. The majority of smallholder households are not beneficiaries of the FRA maize purchases. In addition, when FRA raises the maize floor prices, it not only affects urban consumers, but also about 37% of the poor households who are net maize buyers² (Figure 6). This implies that the price stabilizing effects of FRA policies are regressive as they disproportionately benefit relatively better off households and have negative net effects on relatively poor households (Mason and Myers 2013).

It should be understood that rural poor households are faced with different problems that need different solutions. One way the poor would benefit is through lower average food prices that result from functional food markets (markets that are properly linked and integrated into the cash economy). Another option is through increasing provision of welfare services and social safety nets such as conditional cash transfers to the poor. Tesliuc, Smith, and Sunkutu (2013) found that productive safety nets can accelerate the reduction of extreme poverty but this can only work well in parallel with main drivers of poverty reduction such pro-poor growth, education, agricultural productivity, and employment creation. The authors noted that Zambia is already spending a lot of money on a variety of transfer and subsidy programs, but most of it goes to better-off households.

² These are households that grow maize but the relatively low quantity produced is not sufficient for household needs, and with purchasing power, these are in a position of only buying maize or maize meal during the year. This category also includes households who do not grow maize but buy maize/mealie meal for consumption (Kuteya et al. 2011).

Figure 6. Net Maize Buyer Smallholder Farmers



Source: CSO/MAL/IAPRI 2015.

4.4. Effects of FISP and FRA on Private Sector Participation

A large body of evidence exists which clearly demonstrates the negative effects of maize subsidies on private sector investment. In terms of FISP, this effect is primarily one of crowding out commercial input investments by the private sector (Xu et al. 2009). This is mainly because of three reasons: 1) input volumes by location from FISP are often unknown to the private sector, making it difficult for them to plan their investments; 2) FISP tends to source from a limited number of suppliers—particularly for fertilizer—creating an uneven playing field for private sector; and 3) FISP tends to target economically better off households who could purchase inputs without subsidy support, meaning the amount of effective private sector input demand is lower than it would be without the subsidy.

On the other hand, FRA's activities have also largely impacted negatively on the private sector participation in maize marketing. For instance, the FRA's pan-territorial purchasing prices, which usually exceed market prices, have driven some private actors out of the market. In addition, in a number of years, the FRA has purchased the majority of the maize on the market dampening demand for traders or commercial farmers as the commercial mills lobby for subsidized maize from FRA. Commercial mills are the traditional markets for commercial farmers. This move by the FRA has reduced competition in the wholesaling sector and concentrated the maize supply chain around government-led marketing system. Furthermore, the FRA's selling of maize at subsidized prices to commercial mills later in the year does not only give comparative advantage to mills that access subsidized maize but also create price uncertainty in the maize market. These factors have been discouraging the commercial farming sector to produce maize (Kuteya and Sitko 2015).

4.5. The Big Beneficiaries from FISP and FRA

Distributors of fertilizer i.e., transporters and fertilizer companies that are offered government tenders end up being the ones who benefit from public resources under FISP. Chapoto et al. (2015) found that those who are thought to benefit directly from FISP and from the operations of FRA tend to oppose any change. The authors also found that as long as there is

something to be gained from the status quo, people tend to protect it. This rent-seeking behavior tends to obstruct change. Despite this resistance for the e-voucher, Mason and Jayne (2012) concluded that an e-voucher system has the potential to improve monitoring of subsidized fertilizer and to reduce leakage. Mason and Jayne (2012) found that about 33% of the subsidized fertilizer does not reach the intended beneficiaries and instead ended up being resold as commercial fertilizer. There has always been a huge discrepancy between the targeted number of beneficiary households and those who actually receive the FISP fertilizer. For example, Table 5 shows that since 2010 through 2013, less than half of the targeted number of farming households reported to have benefited from FISP fertilizer (column E). For fertilizer tonnage, on average, only 60% of the planned quantity was distributed each year since the program's inception in 2002/03 agricultural season (column G).

These results are not peculiar to Zambia alone. Most African governments support input subsidies mainly to gain political popularity (Morris et al. 2007). Analyzing Ghana's 2008 fertilizer subsidy program, Banful (2010) found that politics played a significant role in the way vouchers for purchasing fertilizer were allocated. The author observed that higher numbers of vouchers were targeted to districts that the ruling party had lost in the previous presidential elections and more so in districts where the ruling party had lost by a higher margin. The study further revealed that each district where the ruling party had lost the previous presidential election received 2% more vouchers for each percentage point. As much as these subsidy programs are perceived to be poverty reduction programs, Banful (2010) found that district poverty levels were not statistically significant in determining voucher allocation. The author concluded that since vouchers were targeted to areas in which the opposition party received strong support, it was suggestive of the vouchers being used for vote buying. As such, politically motivated allocation of subsidy benefits remains a major potential source of inefficiency.

Studies that evaluated the Malawi's subsidy program also indicated that the targeting system was weak because relatively wealthier households acquire more government subsidized fertilizer than poorer households (Chibwana, Fisher, and Shively 2011; Ricker-Gilbert,

Table 5. FISP Targeted and Actual Beneficiaries by Year

Agricultural season	Planned fertilizer (MT)	Subsidy level (%)	Target # of beneficiary HHs	Actual # of beneficiary HHs	% of beneficiary HHs	Fertilizer received by HHs (MT)	% of fertilizer received by HHs
	A	B	C	D	E	F	G
2002/03	48,000	50%	120,000	102,113	85%	31,722	66%
2003/04	60,000	50%	150,000	101,139	67%	33,372	56%
2004/05	46,000	50%	115,000	64,854	56%	16,792	37%
2005/06	50,000	50%	125,000	74,040	59%	23,595	47%
2006/07	84,000	50%	210,000	164,229	78%	58,404	70%
2007/08	50,000	50%	125,000	140,612	112%	43,596	87%
2008/09	80,000	75%	200,000	192,860	96%	55,114	69%
2009/10	100,000	75%	500,000	292,685	59%	69,103	69%
2010/11	178,000	76%	891,500	430,141	48%	116,116	65%
2011/12	182,454	79%	914,670	422,624	46%	108,396	59%
2012/13	183,634	XX	877,000	122,533	14%	33,657	18%
2013/14	188,312	50%	900,000	440,810	49%	115,341	61%
2014/15	208,236	XX	1,000,000	-----Not available-----			

Source: MAL 2014b; MAL/CSO Various years.

Jayne, and Chirwa 2011). Research findings from Asia and high-income countries also suggest that the costs of universal subsidies often outweigh their benefits, and that input suppliers usually capture a large part of those benefits because the cost savings are not fully passed on to farmers (Brooks, Dyer, and Taylor 2008 cited in Ricker-Gilbert, Jayne, and Shively 2013).

4.6. Effects of FISP on Delivery of Fertilizer to Farming Households

Namonje-Kapembwa, Black, and Jayne (2015) estimated the effects of late delivery of FISP fertilizer on the technical efficiency of smallholder maize producers and on foregone national maize output. The authors found that late delivery of fertilizer negatively affects Zambian farmers' technical efficiency by a 4.2% reduction in maize production and yield. As a result, the foregone maize output was found to be 84,924 metric tonnes during the 2010/11 farming season. This loss in maize production was estimated at 21.2% of the total cost of the FISP program during the same season.

Low crop productivity is also caused by lack of extension education to smallholder farmers. When MAL extension officers get engaged in fertilizer distribution, there is an opportunity cost of providing extension services to farmers.

Table 6 shows that a greater proportion of households reported receiving their basal and top dressing fertilizer from FISP late compared to private sector sources. For example, during the 2012/2013 farming season, most of the farmers had not yet received FISP fertilizer by December 2012. Moreover, using the Government of the Republic of Zambia (GRZ) MAL Crop Forecast Survey results for 2012/2013 agricultural season, 46% of the households that participated in the program indicated receiving basal fertilizer late while 51% received top dressing late. Conversely, of those who obtained both basal and top dressing on loan purchase from out-grower schemes, only less than 5% received the fertilizer late. All those who acquired fertilizer on loan purchase from private traders/retailers and direct commercial exchange/barter received the input on time.

Table 6. Timeliness of Fertilizer Received by Farming Households

Source of Fertilizer during 2012/13 agricultural season	% of households that received basal dressing late	% of households that received top dressing late
FISP	34.0	38.3
Cash purchase from private trader/retailer	14.0	13.7
Loan purchase from out-grower scheme or others	6.0	6.0
Loan purchase from private trader/retailer	0	0
Direct commercial exchange/barter	0	0

Source: MAL/CSO various years.



A road linking Kipushi border market and Solwezi, North Western Province – Photograph by Brian Chisanga.

4.7. Public Spending on Feeder Roads

Increased production and productivity requires proper linkage to markets both within rural localities and urban markets. Unfortunately, rural markets are underdeveloped and linkage to urban markets is also poor as most feeder roads are in a deplorable state especially during rainy seasons. Actually, some remote rural areas become cut off from urban markets during rainy season.

Table 7 reveals that budgetary allocations towards agricultural feeder roads have been dismal except in 2014 when the government increased allocations to K63.47 million to rehabilitate over 1,300 kilometers of the core feeder roads. Otherwise, the rest of the years, including 2015, agricultural budgets have been silent except in 2012 and 2013 with allocations of K19.92 million and K26.47 million, respectively. Even with increased funding in 2014, only a few districts benefited. Investments in agricultural feeder roads can help to improve rural households' market access, a development that could enhance pro-poor growth.

Conversely, the private sector, which includes a wide range of formal and informal enterprises, from the largest formal companies, through to small and medium enterprises, to individuals, plays multiple roles in pro-poor strategies. Pro-poor development could be enhanced by identifying and addressing the constraints that hinder the operation of markets that are of importance to poor people (Duncan, Macmillan, and Simutanyi 2003). The authors further argue that there should be deliberate policies or investments that directly or indirectly strengthen informal markets. These should include investments in physical infrastructure like feeder roads in order to help reduce marketing costs.

Table 7. Feeder Roads Rehabilitation Allocations by Year

Year	Allocation (K)
2012	19,923,880
2013	26,470,000
2014	63,470,000

Source: MoFNP various years.

4.8. Trends in Share of Research to Agricultural Budget

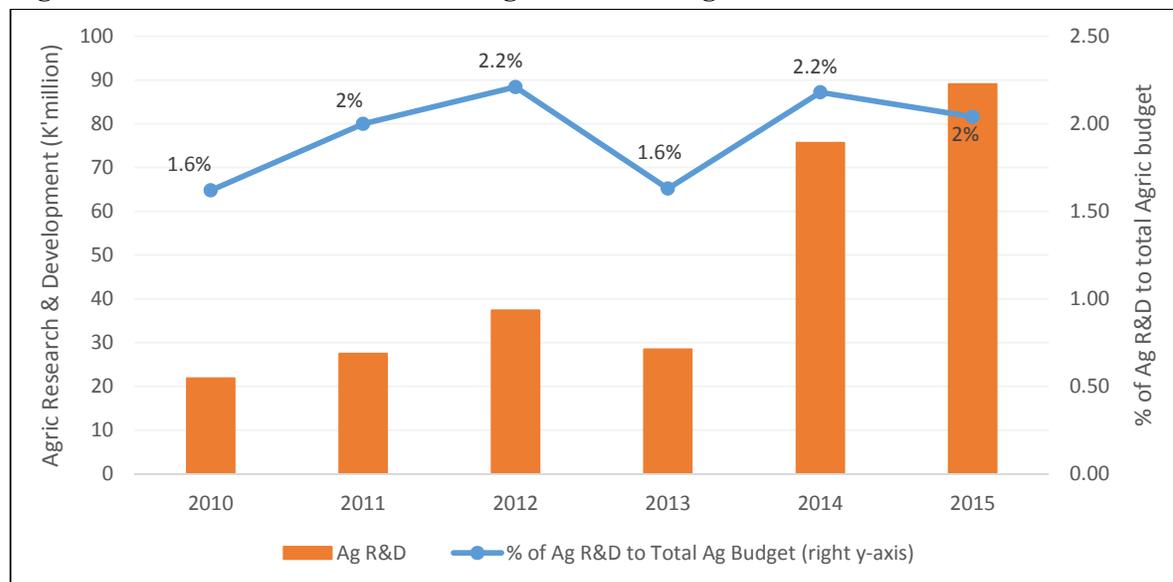
Improvements in crop productivity require quality investments in research and extension. In Zambia, investments in research and development as well as extension have been very low. For example, government devoted about 9% of total national budget to the agricultural sector in 2015 but only 2% (89 million kwacha) of the total MAL budget was allocated to agricultural research and development. The same is true even for previous (2010 to 2014) agricultural budgets (Figure 7). Without channeling public spending in such kind of investments it becomes difficult to realize growth that can lift the poor out of poverty. Low crop yields are partly explained by poor/low investments in research and extension.

4.9. Releases versus Budget Allocations

A good budget on paper is one thing while a well-implemented budget is another. Proper implementation of a good budget is expedient. In Zambia, there is a certain amount of vagueness as to how the agricultural budgets are executed.

If we look at 2009 through 2014, salaries and wages (PEs) releases were roughly above 100% whereas operational funds (RDCs) releases were on average below 80% during the same period. To be specific, only 51% was released out of the total sum that was allocated for operational funds in 2014, (Table 8). Looking at poverty reduction programs, the share of released funds against the budgeted amount since 2009 has been above 100% because of supplemental funding to FRA and FISP in all the years. This has been the case mainly because actual spending on FISP and FRA is normally above approved estimates each year. As this happens, resources might be drawn from other equally important core activities and in the end these activities receive less funding than what was allocated initially. The disparities between approved estimates and actual releases suggest the agricultural budget only offers a rough guide of spending priorities (Govereh et al. 2006).

Figure 7. Share of Research to Total Agricultural Budget, 2010 to 2015



Source: MAL various years; MoFNP various years.

Table 8. Percentage Released for Key Spending Areas, 2009-2014

MAL Key spending areas	2009	2010	2011	2012	2013*	2014	2015*
Personal Emoluments	115	112	109	98	48	97	60
Recurrent Departmental Charges	80	64	72	102	52	51	35
Grants and Other Payments	77	120	399	92	72	97	75
Poverty Reduction Programmes	143	328	386	142	108	168	122
Capital Expenditure	84	68	67	105	38	29	45
Agricultural Show	168	115	97	88	77	166	89
Agricultural Development Programs	100	1	1	18	15	98	21

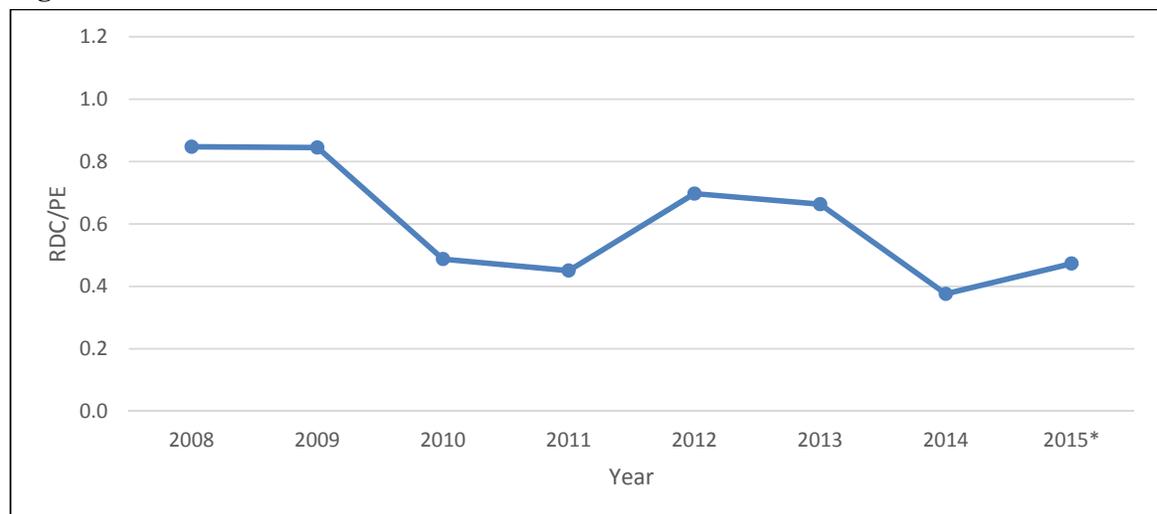
Source: MAL various years; MoFNP various years.

Note: *2013 percent released by August while 2015 are releases going up to September.

If we compare the PEs to RDCs, we find that the funds that go towards MAL staff salaries are more than operational funds. And whenever the ratio of RDCs to PEs is less than one, then general field operations may be constrained. Figure 8 shows that ratio of RDCs to PEs has been less than one meaning over the years little has been budgeted for field operations and worse still, these funds have normally been released late.

In 2013, the Agricultural Consultative Forum (ACF) carried out an agricultural budget tracking in two districts – Monze and Kazungula. The study revealed low execution rates. In Kazungula district, it was observed that out of the total budgeted amount of K585 thousand in 2013, only 25% had been released by August the same year while for Monze it was 69%. Of the released funds, 32% was utilized in the case of Kazungula while Monze it was 85% (Table 9). Thus, the problem is not only in releases but also in expenditure as the two districts could not utilize all the released funds in a timely manner.

Figure 8. Ratio of RDCs to PEs over Time



Source: MAL various years; MoFNP various years.

Note: *2015 is based on releases up to September.

Table 9. Kazungula and Monze Districts Budget Performance by August, 2013

District	Budget Amount (ZMW)	Amount Released (ZMW)	Amount Spent (ZMW)	Released amount as % of total budget	Spent amount as % of total released
Kazungula	585,421	148,647	102,647	25	69
Monze	929,069	294,138	248,688	32	85

Source: ACF 2013.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The Zambian agricultural budget is myopically focused on achieving a national maize security objective, and in the process ignores the conditions under which most rural people live (i.e., small landholdings, low income, limited asset base, poor infrastructure, limited knowledge of improved agricultural practices, credit market failures, etc.). With the majority of the poor living in rural areas and depending on agricultural related activities for their livelihoods, there should be deliberate policies that target the various groups of smallholder farmers in order to reduce rural poverty, stimulate agricultural growth, and reduce malnutrition.

Since independence, agricultural spending in Zambia has been favoring maize subsidy programs. Different governments, The United National Independence Party (UNIP), The Movement for Multiparty Democracy (MMD) and currently The Patriotic Front (PF) all had/have an attraction to these ineffective programs. The Poverty Reduction and Strategic Paper of 2002 argued that subsidies address both social and political objectives of poverty reduction and improved food security in the country but in their current form, the programs have failed to achieve their objectives. Others have argued that successive governments continue devoting a huge proportion of the agricultural budget on subsidy programs because of the belief that they win favor from the electorate, especially the rural households. For example, Mason, Jayne, and van de, Walle (2013), found that households in constituencies won by the ruling party, MMD by then, received significantly more subsidized fertilizer than where they lost. Unfortunately, there is not enough evidence to back up this assertion because MMD lost to PF despite spending a lot in 2010/2011.

Pro-poor budgets tend to do two things: 1) they tend to invest in public goods that generate long-run returns that benefit both the poor and the rich. These include research and development (R&D) investments, public education, and infrastructural investments and; 2) they tend to invest in ways that help the very poor overcome persistent asset constraints, thereby creating opportunities to exit entrenched poverty traps. These may include well-targeted safety nets such as social cash transfer scheme.

However, Klasen (2006) noted that pro-poor growth requires strong commitment of the political leadership in order to reduce inequality and reduce poverty. Stakeholders in agriculture have raised concern on the need to reform FISP and FRA by crowding-in private sector in order to leverage government resources in the input and output markets to achieve broad based poverty reduction, higher productivity and a reduction in malnutrition levels. Yet, the Ministry of Agriculture has continued to allocate a huge share of the ministry's budget to input and output subsidies. If we include supplemental funding, the share of these two programs to the agricultural budget has always been higher than 60%, in some years reaching 80%. The expenditure on FISP and FRA alone, on average, is equivalent to 1.5% of the nation's gross domestic product.

To achieve meaningful pro-poor growth, there is need to restructure the composition of the allocations to the agricultural sector. The budgeting process should take into account the fact that there are different categories of the rural poor whose needs can be serviced differently. Subjecting different categories of rural households to the same conditions disadvantages households that are relatively weaker and poorer. This partially explains why government programs such as FISP and FRA end up disproportionately benefiting relatively well off in

terms of income, assets and land holdings. If the limited government funds could be targeted according to the particular needs of these diverse groups, there is a higher likelihood of positive impact on rural poverty. In addition, there is an urgent need to increase funding to core productive areas such as R&D, extension services, irrigation, livestock development, and rural infrastructure (feeder roads and rural electrification) in order to provide a way out of poverty for the majority of rural households.

5.2. Recommendations

The rural poor need spending that allows them to maximize returns of their scarce resources (land in particular) and leverage their relative comparative advantage (labor). Improved investments to promote the uptake of high value crop production, is one potential avenue to explore. Hichaambwa, Chamberlin, and Kabwe (2015), show that horticultural crops are much more profitable than maize. For example, their results show that gross margins for cabbage was 219 times more than that of maize while for tomato and onion it was 179 times and 138 times more, respectively. The percent gross margin return on total variable cost of these horticultural crops (cabbage, tomato, and onion) was 263, 158 and 141 percentage points respectively more than that of maize. Therefore, to move out of poverty, the extremely poor or land constrained households are better off engaging in horticultural or other high value crops, provided there is a functional staple food market. Asset poor households are unlikely to assume the risk of abandoning maize if they think that will leave them hungry. Therefore, a balanced approach that gets food markets working while enabling small farms to transition to horticultural and higher value production is critical.

Uptake of high value crop production (including groundnuts, pigeon peas, soyabeans, sunflower, etc.) requires government support, knowledge (willingness and capacity to learn), capital (initial productive assets), and reasonable access to markets. Therefore, there is need for effective extension, credit systems, and physical infrastructure like feeder roads, appropriate irrigation technology, and markets. This is supported by Fan, Gulati, and Thorat (2007) and Timmer (2005), who found that investments in agriculture research and development, extension services, and rural infrastructure are key in achieving agricultural growth and poverty reduction. To achieve this, there is need to redirect a great proportion of the expenditure on subsidy programs to areas with more returns to investments. However, simply reallocating public resources would not be enough but this should go hand in hand with effective use of such resources in order to achieve positive results.

To make public spending more pro-poor, the costs of running programs should not outweigh the benefits of public spending. In Zambia, a lot of public funds have been going to FISP and FRA, yet if we consider distribution costs that include transport, storage, handling, fumigation, cost of storage losses, and financing, the bulk of these funds is spent as costs. Among the objectives of the e-voucher system is to save resources through elimination of procurement, transportation, storage and other costs associated with the traditional FISP, hence the need to roll out the e-voucher countrywide. Other benefits that would come with the e-voucher system include improved targeting of beneficiaries, improved timeliness in inputs distribution, encouraging private sector participation in inputs marketing and distribution and ultimately improved household food and nutrition security. Already, about 20,000 ghost farmers have been eliminated in the 13 e-voucher pilot districts of Chibombo, Chongwe, Kalomo, Choma, Monze, Mazabuka, Mumbwa, Kabwe, Kapiri Mposhi, Ndola, Chikankata, Chisamba and Pemba. However, as there is no one single perfect system, the main challenge that was observed in the pilot districts was cards activation as cards were

taking too long to be activated. Too much red tape on cards activation was contributing to the delayed activation.

Under the public private partnership, the government should promote private sector storage as opposed to holding large physical stocks of maize. Interviews with GTAZ revealed that private grain traders have a total storage capacity of over 550,000 tons (including 150,000 tons of rented space). GTAZ indicated that, given the right policy environment, they can potentially invest in 23 certifiable sites in 18 districts and this would bring the total storage capacity under private grain traders to 825,000 tons (GTAZ 2015). Besides private grain traders, warehouse receipts system implemented through the Zambia Agricultural Commodity Exchange (ZAMACE) should be encouraged to ease government pressure on storage. The system can also play an important role in creating liquidity and easy access to credit. ZAMACE also offers the best possible market price under prevailing market conditions.

One way to promote private sector storage is through government giving long-term leases to the private sector to upgrade or rehabilitate defunct storage facilities. Alternatively, government can provide long-term incentives for the private sector to build new storage facilities. The move will promote productivity growth in the sector. Development of a vibrant certified warehouse receipt system led by the private sector would not only promote crop productivity among smallholder farmers, but also access the most needed credit through the system. The funds saved by government from handling large physical maize stocks can be invested into more essential public infrastructure, such as building feeder roads, rehabilitating and maintaining existing rural roads in order to enhance and facilitate local marketing and trade.

Government should be targeting farming households according to their unique group needs. The grouping of all households in rural areas as poor needs to be broken down into categories according to their needs and these can be assessed frequently through national surveys.

Last but not the least, given that the majority of the female-headed households are in the extremely poor category, there is need for deliberate policies that try to empower women. Such policies should be much more attuned to addressing issues of land scarcity by increasing investments that can effectively maximize their returns per hectare.

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