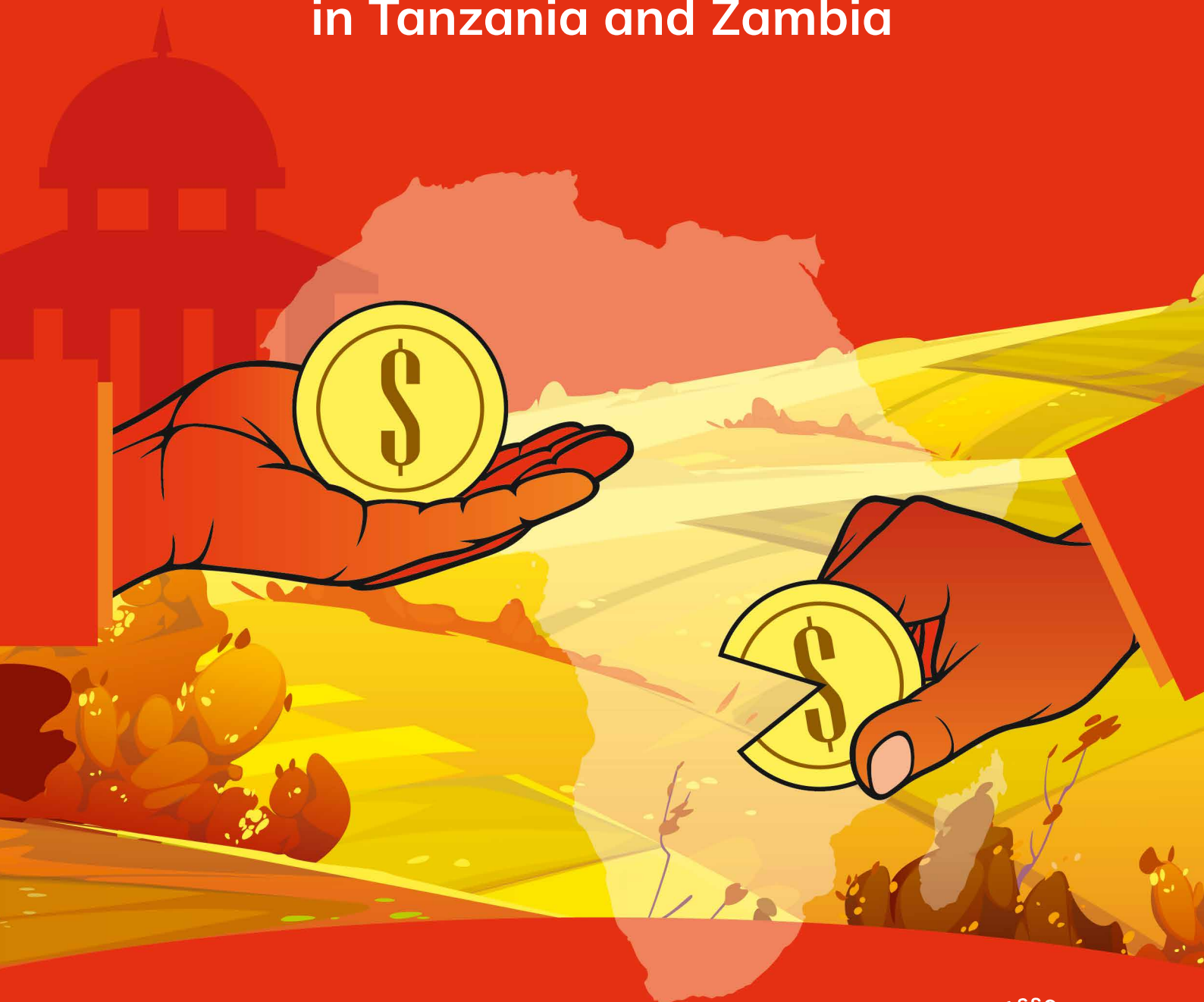


# THE STATE MATTERS

Government Spending on Agriculture  
in Tanzania and Zambia



ROSA LUXEMBURG STIFTUNG



## Authors

Refiloe Joala (Rosa Luxemburg Stiftung Southern Africa)

Donati Senzia (PELUM Tanzania)

Muketoi Wamunyima (PELUM Zambia)

Content Editor: Jan Urhahn (Rosa Luxemburg Stiftung Southern Africa)

## Publisher

### **Rosa Luxemburg Stiftung Southern Africa**

237 Jan Smuts Avenue

2193 Johannesburg, South Africa

Telephone: +27 (0)11 44 75 22 2

Email: [info@rosalux.co.za](mailto:info@rosalux.co.za)

Website: [www.rosalux.co.za](http://www.rosalux.co.za)

### **PELUM Tanzania**

Plot 445, Old Dar Es Salaam Road

Kigurunyembe Mizambarauni, P.O. Box 390, Morogoro, Tanzania

Telephone: +255 (0) 75 82 70 33 9

Email: [info@pelumtanzania.or.tz](mailto:info@pelumtanzania.or.tz)

Website: [www.pelumtanzania.or.tz](http://www.pelumtanzania.or.tz)

### **PELUM Zambia**

New Wing, Luapula Suite 32, Mulungushi Conference Centre

Great East Road, Lusaka, Zambia

Telephone: +260 (0) 21 12 93 07 4

Email: [info@pelumzambia.org](mailto:info@pelumzambia.org)

Website: [www.pelumzambia.org](http://www.pelumzambia.org)

## Imprint

**Press Date:** February 2023

**Editing:** Barbara Hime

**Layout and illustration:** Marischka Lutz Grafikdesign, [www.marischkalutz.de](http://www.marischkalutz.de)

Johannesburg | Lusaka | Morogoro, March 2023

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# Abbreviations

ADB	African Development Bank
AU	African Union
AGRA	Alliance for a Green Revolution in Africa
BNB	Basic Nutrition Basket in Zambia
CAADP	Comprehensive Africa Agriculture Development Programme
EAAPP	Eastern Africa Agricultural Productivity Programme
FAO	Food and Agriculture Organization of the United Nations
FBDP	Farm Block Development Programme in Zambia
FISP	Farmer Input Support Programme in Zambia
FRA	Food Reserve Agency in Zambia
FSP	Fertiliser Support Programme in Zambia
GDP	Gross Domestic Product
HIPC	Heavily Indebted Poor Countries
IDPs	International development partners
IDSP	Irrigation Development Support Project in Zambia
IMF	International Monetary Fund
LCMS	Zambian Living Conditions Monitoring Survey
MALD	Tanzanian Ministry of Agriculture and Livestock Development
MNCs	Multinational Corporations
NAIVS	National Agricultural Input Voucher Scheme in Tanzania
NRC	National Irrigation Commission in Tanzania
NSGRP	National Strategy for Growth and Reduction of Poverty in Tanzania
OPVs	Open-pollinated varieties
PELUM	Participatory Ecological Land Use Management
PPPs	Public-private partnerships
RALS	Rural Agricultural Livelihood Survey in Zambia
RLS	Rosa Luxemburg Stiftung
SAGCOT	Southern Agriculture Growth Corridor of Tanzania
SAPs	Structural Adjustment Programs
TAFSIP	Tanzania Agricultural and Food Security Sector Investment Plan
TALIRI	Tanzania Livestock Research Institute
TARI	Tanzania Agricultural Research Institute
UN	United Nations
USD	United States Dollar
WB	World Bank
WFP	World Food Programme
ZamStats	Zambia Statistics Agency
ZARI	Zambia Agriculture Research Institute (ZARI)
ZMW	Zambian Kwacha

# Summary

**T**he agricultural sector plays a significant role in African countries by firstly producing sufficient food, secondly generating employment and income across the rural and urban divide, and thirdly reducing poverty. Over the past two to three decades, the “spending policies” of many African countries have undergone massive changes, mainly due to the influence of donor governments, the International Monetary Fund (IMF) and the World Bank (WB). Whereas states previously intervened more directly in the agricultural sector, for instance, with active pricing policies and other measures, nowadays the state is expected to provide a more prosperous environment for private sector investment.

The study analyses the different aspects of public spending on agriculture in Tanzania and Zambia including the overall budget allocation to the sector, the amount of support it receives from donors, government spending on environmental sustainability, and research and extension services. In Tanzania, for example, the national budget allocation for agriculture fluctuated significantly between 2010 and 2020 increasing from 3% in 2001/2002 and peaking at 7.8% in 2010/2011 before hitting a steady decline from 2012/2013 onwards. In Zambia, between 2010 and 2021 the agricultural sector was allocated less than 10% of Zambia’s national budget and both countries – Tanzania and Zambia – failed to meet the Comprehensive Africa Agriculture Development Programme (CAADP) commitments to allocate 10% of their national budgets to agriculture. Furthermore, the budget allocation for agriculture as a percentage of Zambia’s national budget shows considerable fluctuations over time.

In both countries, under-disbursement is a big challenge. Under-disbursement means that government ministries do not receive the funds announced to the public about the annual state

budget. In Tanzania, under-disbursement by the treasury often leads to available funds being absorbed by wages and running costs. Consequently, projects get less or no funds and must be carried over to the next budget cycle. Meanwhile, funding towards research and development, and extension services has consistently remained low in both countries, with actual disbursement and actual spending averaging below 50% of the reported budget allocations.

**The agricultural sector plays a significant role in African countries by firstly producing sufficient food, secondly generating employment and income across the rural and urban divide, and thirdly reducing poverty.**

Donor partner support for agriculture has declined steadily over time in Tanzania and Zambia. The percentage of public funding in Tanzania was 12.3% in 2000/2001 and 79.5% in 2019/2020, while funding by development partners was 87.7% in 2000/2001 and 20.5% in 2019/2020. While donors do not explicitly dictate the projects, the government is not permitted to transfer donor funds from one project to another. Donor funds are often used for projects aligned with agricultural sector priorities and CAADP targets as defined in the national agricultural development strategy. Contributions by donors to the Zambian national budget have increased over time and represent a bigger share of the government’s fiscal

space. Cooperating partners have favoured investment in farming techniques and capital investment such as irrigation. The average donor support to the national budget between 2010 and 2021 was around 18%. The programmes that receive support from foreign donor partners usually focus on increasing production and productivity by providing small-scale food producers with access to inputs, markets and infrastructure development.

**A large share of government spending in both countries goes into input support programmes that have concentrated on maize providing inputs and markets for a single crop, displacing other critical food crops that contribute to improved food access and nutrition.**

A large share of government spending in both countries goes into input support programmes that have concentrated on maize providing inputs and markets for a single crop, displacing other critical food crops that contribute to improved food access and nutrition. Maize accounted for circa 70% of crop output and the largest portion of the planted area in Tanzania, followed by paddy rice covering almost 17%. Agricultural budget share towards farmer input subsidies between 2015 and 2021 varied between 33% and 80%. The private sector has been the primary beneficiary, with the number of commercial seed and fertiliser companies growing and new local companies competing with established multinational corporations (MNCs) that dominate the sector. In general, farmer input subsidies impact the budget allocations for other agricultural programmes such as extension services, research and development, which also drive agricultural production and productivity. Even with marginal allocations, these programmes fail to receive their approved full funding.

While there is considerable variability in investment in agricultural research and development across different regions, African countries, in general, have historically underinvested in this area compared to other regions in the Global South. Tanzania only invested 0.17% of its agricultural budget in research and development in 2016, well below the 1% target recommended by the African Union (AU) through CAADP and the United Nations (UN). Research programmes usually promote monocultures that stifle biodiversity and displace important traditional food crops. Furthermore, with larger areas under production, there is the risk that we destroy the environment through deforestation.

The study finds that the purposeful and prudent use of public funds can make all the difference in transforming food systems in Africa if governments have the will to do so. By providing small-scale food producers with the tools and resources they need to succeed, public spending can help to increase food production, reduce poverty, and improve food security. The study argues that government spending should be aimed at:

**Environmental sustainability** by protecting natural resources and the environment and directing public funds allocated for environmental management, including donor funding, to initiatives that promote agro-biodiversity.

**The resilience of agricultural systems** by reducing the use of inorganic fertilisers and pesticides and promoting agroecological alternatives instead.

**Targeting small-scale food producers**, explicitly women and youths as target groups.

**Public research and extension services** devised to promote and broaden the scope of agricultural research as well as increase the capacity of extension services.



# 1. African governments must walk the talk



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Small-scale food producers dominate agriculture at the foothills of Kilimanjaro in Tanzania.

**T**his paper argues that the amount of public funds governments spend on agriculture matters because the share of national budgets earmarked for the sector, and how tactically and efficiently funds are allocated, have far-reaching implications for both agriculture as a whole and the survival of millions of small-scale food producers. In many African countries, the agricultural sector plays a pivotal role in food production, employment and poverty reduction. The past two to three decades have shown that the “spending policies” of several African countries have changed, especially due to the influence of donor governments, the International Monetary Fund (IMF) and the World Bank (WB). In the past, African states were more hands-on by implementing pricing policies, for example, nowadays the focus is on encouraging private sector investment.

After being on the political back burner for several years, the agricultural sector is once again in the spotlight. Since the early 2000s, agricultural policy reforms in Africa have focused on improving productivity levels by integrating “modern” technologies while maintaining employment-intensive growth, redirecting domestic and international investments, and ensuring conducive conditions for the development of this sector.<sup>1</sup> In 2003, as part of the Maputo Declaration and the adoption of the Comprehensive Africa Agriculture Development Programme (CAADP), African countries committed to eliminating hunger by allocating 10% of their national budgets to agriculture and achieving a 6% average annual growth rate at a national level. Some twenty years later, very few of them have reached this target. The Food and Agriculture Organization of the United Nations (FAO) found that the per capita spending on agriculture in African

countries, including Tanzania and Zambia as the two countries being analysed in this paper, remains far less than in other regions of the world.

In 2014, African Heads of State re-committed to CAADP principles with the Malabo Declaration, promising effective leadership to meet CAADP targets and attain specific goals by 2025. Among others, these goals include ending hunger, tripling intra-African trade in agricultural goods and services, enhancing the resilience of livelihoods and production systems, and ensuring that agriculture is used to markedly reduce poverty.

**In the past, African states were more hands-on by implementing pricing policies, for example, nowadays the focus is on encouraging private sector investment.**

With converging crises including the aftereffects of the COVID-19 pandemic, skyrocketing global food prices and supply chain disruptions linked to the war in Ukraine, an ever-increasing number of people have been pushed into poverty and hunger. African food systems need to urgently be transformed and government spending needs to be refocused to build resilient food production and distribution networks that can deliver access to nutritious food locally not only in the long term, but in the short to medium term as well. According to a 2021 World Food Programme (WFP) report, the proportion of Africa's population that is food stressed (i.e., all income used to purchase food) increased from 10.2% in 2019 to 13.3% in 2020 and only partially recovered to 12% in 2021. In light of the impacts of the war in Ukraine on food and agriculture globally it is likely that this proportion of the population will increase.

Although there was no hard lockdown imposed in Tanzania at the onset of the COVID-19 pandemic in 2020, the country was affected by the responses adopted by other countries. Some 85% of small-scale food producers lost income because of fewer trading partners from neighbouring countries, reduced farm output and the shortage of agricultural inputs, particularly imported synthetic fertiliser, which many conventional farmers rely on.<sup>2</sup> In the aftermath of the pandemic, Tanzania is now confronted with the effects

of the ongoing global food prices crisis, specifically the cost of staple foods such as maize, wheat, rice, sorghum and dry beans that increased by 60.4%, 53.8%, 49.2%, 27.6% and 7.7% respectively between May 2021 and May 2022.<sup>3</sup>

Small-scale food producers in Zambia also felt the sting of COVID-19 particularly due to restrictions on movement and border closures in the region that prevented cross-border trade over the short to medium term. Farming activities and services, labour supply, and market access were disrupted and prices spiked on farm inputs, tillage services, and agricultural land rental. Temporary border closures with Tanzania in

Nakonde and the Democratic Republic of Congo in Kasumbalesa disrupted high-income long-distance marketing routes for small-scale food producers and so-called 'middle-men' who act as buyers or brokers of farm produce in villages across Zambia.<sup>4</sup> After the outbreak of the war in Ukraine, the average cost of the Basic Nutrition Basket (BNB) in Zambia increased from around 385 US Dollar (USD) to over

510 USD between February and April 2022 while fertiliser prices almost doubled from around 30 USD per 50 kg bag in 2021 to between 50 USD and circa 60 USD in the 2022 season.<sup>5</sup>

## **Research approach**

This paper is based on research about public expenditure on agriculture in Tanzania and Zambia commissioned by the Rosa Luxemburg Stiftung Food Sovereignty Programme and carried out by two researchers, Donati Senzia (PELUM Tanzania) and Muketoi Wamunyima (PELUM Zambia). The research relied on a combination of primary and secondary data. Primary data was obtained from key-informant interviews with state officials in Lusaka, Dodoma and Dar es Salaam, and researchers, through semi-structured interviews. Secondary data comprises information retrieved from government records such as the yellow book (i.e., the national budget book in Zambia), ministries of agriculture documents, central statistics data and ministries of finance. Other sources included WB data, FAO data and various online sources. While the focus is on agriculture, this analysis only assesses the budget allocation and spending by the ministries of agriculture in the two countries and does not aggregate all spending on agriculture by different government ministries and agencies.



## 2. A brief overview of agricultural policy evolution in Tanzania and Zambia



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Inorganic fertilisers, hybrid seeds and pesticides are the main ingredients of the Green Revolution in Africa.

**A** range of policy instruments and state-led interventions prioritising agriculture as the engine for the realisation of economic autonomy and food self-sufficiency at the household and national levels were implemented in many African countries during the post-independence

era in the 1960s and 1970s. The policy orientation during this period included explicit interventions aimed at protecting the agricultural sector from external shocks and massive state investment and control of agriculture.<sup>6</sup> In Tanzania, the government remained the main provider of almost all major

agricultural support services, including extension, and infrastructure, particularly irrigation. In Zambia, from the 1960s to the 1980s the state controlled the agricultural sector, fixing prices and subsidizing agricultural inputs thanks to the booming copper mining industry, which was the country's main source of revenue. The objectives of the policies were to achieve food self-sufficiency and equitable distribution of wealth.

The introduction of Structural Adjustment Programs (SAPs), mainly by the IMF and the WB, led to the deregulation of African economies and trade liberalisation between the 1990s and early 2000s. The SAPs marked a major shift in public policies on agriculture across the continent and prompted the withdrawal of public institutions from direct production and provision of goods and services in the sector. Centralised control and state ownership of the major means of production stopped. This was accompanied by increased private sector participation in the supply of agricultural inputs such as inorganic fertiliser, seed and pesticides, agricultural primary

**Since the implementation of the SAPs and the socio-economic mayhem it created across the continent, the policy space continues to build on neoliberal development approaches operating in a deregulated economy and open markets with international corporations playing an even bigger role in the agricultural sector.**

production, and processing and marketing. During this period, both in Tanzania and Zambia, public policies, laws, strategies and programmes started to recognise and promote the roles of the private sector and domestic and international civil society actors and, in so doing, advance particular forms of agricultural development. In Zambia, the SAPs led to a devaluation of the currency and the decontrol of prices for essential commodities. Furthermore, as part of its agricultural policy reforms, the government focused on facilitating and promoting rural finance, intending

to develop effective and demand-driven financial intermediation and sustainable financial institutions.<sup>7</sup>

Since the implementation of the SAPs and the socio-economic mayhem it created across the continent, the policy space continues to build on neoliberal development approaches operating in a deregulated economy and open markets with international corporations playing an even bigger role in the agricultural sector.<sup>8</sup> Alignment with CAADP as a key priority, African governments have adopted policies and strategies with a clear Green Revolution agenda that seeks to integrate small-scale food producers into long commercial supply chains mainly through various models that are being touted as inclusive win-win partnerships, often involving agri-business and development agencies.<sup>9</sup>

Tanzania has adopted a raft of policies and programmes aimed at transforming the country from a predominantly agrarian economy to a semi-industrialised one, as outlined in Tanzania's Development Vision 2025, and the National Strategy

for Growth and Reduction of Poverty (NSGRP), which serve as its overarching development policy frameworks. In 2011, the country formulated the Tanzania Agricultural and Food Security Sector Investment Plan (TAFSIP). The TAFSIP is a 10-year (2011/2012 to 2020/2021) road map for agricultural and rural development. TAFSIP identified seven priority investment areas: (1) irrigation development and sustainable water resources and land use management; (2) agricultural productivity and commercialisation; (3) rural infrastructure, market access, and trade; (4) private sector development; (5) food

and nutrition security; (6) disaster management and climate change adaptation and mitigation; and (7) policy and institutional reforms and support. It is anticipated that spending on agricultural productivity and commercialisation and food security will result in increased production and productivity, particularly with the use of external inputs ("improved" seeds and application of agrochemicals especially inorganic fertilisers and pesticides) in line with CAADP targets.<sup>10</sup>

Central to the strategy is attracting international investment and galvanising multinational corporations (MNCs), international donors, state bureaucrats and politicians through public-private partnerships (PPPs). Launched in 2009, the Kilimo Kwanza, meaning “Agriculture First”, is a framework for PPPs and investment in the commercialisation of agriculture through the expansion of Green Revolution technologies in Tanzania. Examples of projects and programmes based on these policies include the Southern Agriculture Growth Corridor of Tanzania (SAGCOT) which was established in 2011 and the implementation of projects and initiatives funded by the Alliance for a Green Revolution in Africa (AGRA).<sup>11</sup>

Since independence, Zambia’s agricultural policies have been premised on an abundance of resources and focused on accelerating agricultural growth, championed by political elites and state managers, with the ambition of making the country a regional food basket. The Zambian government plans to use the agricultural sector to diversify its copper mining-dependent economy and drive development and poverty reduction, as highlighted in the Eighth National Development Plan for 2022–2026,<sup>12</sup> and the Second National Agriculture Investment Plan, which is presently under review. The main thrusts of the Second National Agriculture Policy are to ramp up productivity, research and development, markets (inputs and outputs), training, private sector participation, and nutrition and food security.

Despite suspending direct state investment in the agricultural sector for a short period in the early 1990s, the Zambian government consistently focused on supporting maize production, initially with the revival of a state-controlled maize market, marked by the establishment of the Food Reserve Agency (FRA) in 1996, and later the reintroduction of a state-driven agricultural input programme in 2002. These mechanisms are politically significant and remain a substantial component of domestic agricultural spending. Following the 2007/2008 food price crisis, donors set their sights on agriculture, particularly on large-scale out-grower schemes.<sup>13</sup> Furthermore, with the relaunch of its Farm Block Development Programme (FBDP) in 2008, the Zambian government

has set aside approximately 100,000 hectares of land in each of its ten provinces to promote investment in large-scale irrigated commercial farms. These farms operate alongside medium-scale farms and small-scale food producers to transfer technology and skills to them.<sup>14</sup> The issue of sustainability of agricultural intensification is given little attention, with some focus on Conservation Agriculture. This is hardly surprising given Zambia’s clear orientation towards Green Revolution-aligned agricultural development that prioritises productivity and yields over the sustainable use of natural resources, biodiversity and food security outcomes. In 2019, a National Agri-PPPs platform was

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set up to consolidate a network of organisations or individuals with interests in advancing PPPs along prioritised supply chains in Zambia’s agricultural sector. Musika, a Zambian non-profit company was elected to manage the platform with members drawn from government ministries and agencies, the private sector, technical and financial development partners, local farmer organisations and civil society organisations and academics. Zambia enacted a Public-Private Partnerships Act, which provides a legal framework for PPPs back in 2009.<sup>15</sup>



### 3. The role of agriculture in the economies of Tanzania and Zambia



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Small-scale food producers provide diverse food to local consumers.

In several African countries, the agricultural sector provides jobs and food for large portions of rural and urban populations. Rain-fed production is commonplace, as is the reliance on a combination of family and seasonal wage labour. This is why the development of agriculture is so important in poverty reduction.

Tanzania's 2019/2020 National Sample Census of Agriculture results show that 7.8 million households (65.3%) worked in the sector. The national basic needs poverty line for 2018 was 22 USD per adult per month, and the food poverty line was 15 USD. Poverty levels dropped slightly before the COVID-19 pandemic as

those living below the national poverty line declined from 28.2% in 2011/2012 to 26.4% in 2018. The reduction was driven by a drop in rural poverty as urban poverty remained stagnant. Furthermore, following two decades of sustained growth, Tanzania reached an important milestone in July 2020, when its status changed from a low-income to a lower-middle-income country.<sup>16</sup> In 2019, Tanzania's agricultural sector accounted for 28.9% of the national Gross Domestic Product (GDP) and earned over 1.2 billion USD with the export of agricultural commodities in 2020. Cashew nuts topped the export value list at roughly

360 million USD. Moreover, horticultural items generated 274 million USD.<sup>17</sup> Apart from the above-mentioned cashew nuts, the main cash crops produced by small-scale food producers in Tanzania include coffee, cotton, pyrethrum, sisal, sugar cane, tea and tobacco. These crops are managed by the respective crop boards that in most cases set floor prices. More recently, non-traditional cash crops produced by small-scale food producers include the aforementioned horticultural crops (fruit and vegetables), and oil crops (ground nuts, sesame and sunflower). In Tanzania, maize, paddy (rice) and other key food crops are regulated by the Ministry of Agriculture as the main staples and serve as a measure of household and national food security in terms of food availability. Therefore, it is common for Tanzania to ban food exports if it anticipates shortages at local markets after low-harvest seasons.<sup>18</sup> Food export bans can discourage farmers from increasing the size of their maize and rice paddy fields for the following season when faced with the possibility of no trans-border or export market opportunities. They then resort to producing a wider variety of crops to boost household and national food security over the short term. A study on the impacts of COVID-19 in Tanzania found that farms that did not produce export crops fared better financially.<sup>19</sup>

In Zambia, poverty is predominantly a rural phenomenon. The 2015 Living Conditions Monitoring Survey (LCMS) results, which provide the latest available data collected by the state on national poverty levels, show that poverty was higher in rural areas at 76.6% compared to 23.4% in urban areas. Poverty in rural areas was highest among small-scale food producers at 78.9%. With no other industrial or economic activities available, agriculture remains the main source of employment and income. Increased production could drive the local economy and potentially create jobs by providing opportunities for supply chain services, such as bulking, processing, and transportation. The sector's contribution to

**In Zambia, poverty is predominantly a rural phenomenon. The 2015 Living Conditions Monitoring Survey (LCMS) results, which provide the latest available data collected by the state on national poverty levels, show that poverty was higher in rural areas at 76.6 % compared to 23.4 % in urban areas.**

GDP has steadily declined since 2010, reaching a low of 2.7% in 2021<sup>20</sup> and its average contribution to GDP between 2010 and 2021 was 6.74%. Of the 22.3% of the population working in agriculture, 4.3% are employed in the formal sector with 18%, mainly small-scale food producers, in the so-called informal sector. Production is largely maize centric. According to the Zambian Statistics Agency (ZamStats), export earnings from agricultural products decreased by 46.1% to one billion Zambian Kwacha (ZMW) in August 2021 from 1.9 billion ZMW in July 2021. The major export commodities were tobacco, partly or wholly stemmed/stripped accounting for 12.3%, others include raw cane sugar (9.3%) and cotton, not carded or combed (8.1%). Agriculture in Zambia is predominantly rain-fed, except for some commercial farmers who have invested in irrigation systems. The main export crops are coffee, cotton, fresh vegetables, maize, soya bean, sugar, tobacco, and wheat. Much like Tanzania, Zambia also has a history of imposing trade restrictions on exports and imports since independence. Between 2012 and 2018, there were four maize export bans where statutory or administrative

measures were used to delay export permits to suppress consumer maize prices while keeping incentives high for farmers through high producer prices.<sup>21</sup> Food security in Zambia is measured in terms of bumper maize harvests.

**Rain-fed production is commonplace, as is the reliance on a combination of family and seasonal wage labour. This is why the development of agriculture is so important in poverty reduction.**



## 4. Trends in agricultural public expenditure in Tanzania and Zambia



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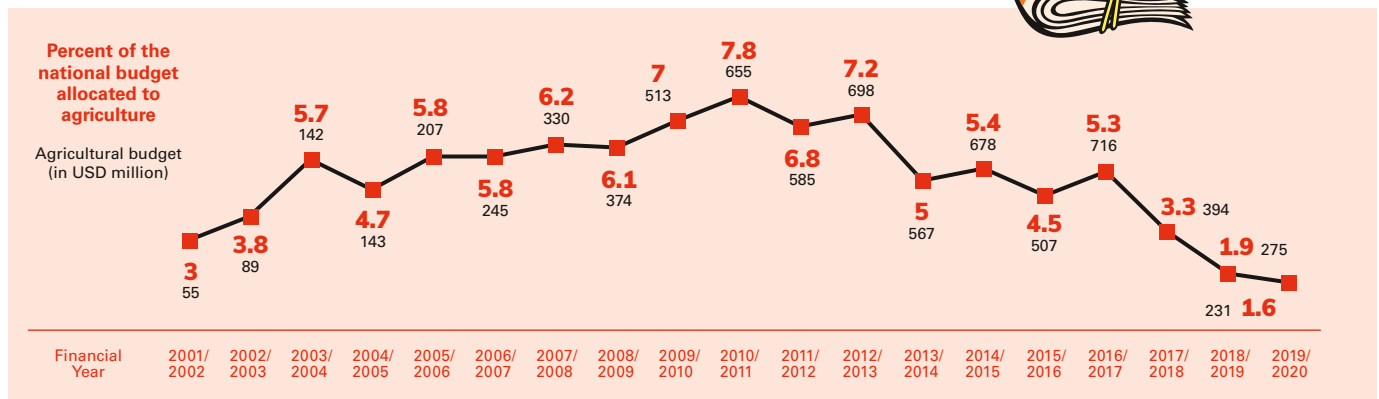
Small-scale food producers in Morogoro, Tanzania and elsewhere need the right government support.

### 4.1 Public spending on agriculture

The national budget allocation for agriculture in Tanzania fluctuated significantly between 2010 and 2020 increasing from 3% in 2001/2002 and peaking at 7.8% in 2010/2011 before hitting a steady decline from 2012/2013 onwards. The agricultural budget is split into two categories: (a) recurrent budget/costs to service government debt, pay salaries and other charges, and (b) development budget that includes expenses related to the implementation of public agriculture investments such as infrastructure, irrigation, mechanization, farm inputs, research and development, and renewable energy. Because the recurrent budget covers the running costs of the Ministry of Agriculture but also includes providing support services to farmers, for example, through the recruitment of extension officers and support that goes to the agricultural input subsidies, both the recurrent and development budget categories therefore contribute to the growth of the sector.<sup>22</sup>

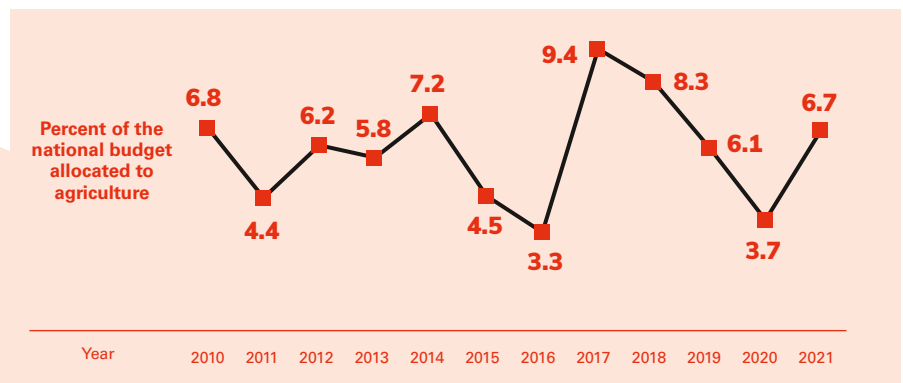
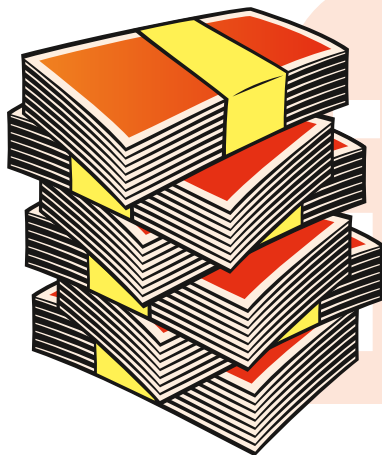
Between 2010 and 2021 the agricultural sector was allocated less than 10% of Zambia's national budget. The budget allocation for agriculture as a percentage of Zambia's national budget shows considerable fluctuations over time mainly due to national politics and public expenditure reforms shaped by multiple and at times competing interests in "elite donor-agribusiness-state alliances."<sup>23</sup> Policy changes have also stemmed from the liberalisation of the economy and the redefining of the state's role in the sector. For instance, powerful political elites have managed to systematically stifle efforts to cut down on farmer subsidies in the interest of redirecting funding to other social programmes such as social cash transfers.<sup>24</sup> Furthermore, the reclassification of Zambia as a middle-income country by the WB in 2011, meant greater private-sector participation and less donor support, which led to an overall reduction in public spending in the sector. Donor-driven reforms in the aftermath of the 2008/2009 global financial melt-down, forced the government to curtail its expenditure. As part of these reforms, the IMF and WB have called

## Agricultural budget as a share of Tanzania's national budget 2001/2002 to 2019/2020



Source: Donati Senzia (PELUM Tanzania), retrieved from various announcements from the Tanzanian Ministry of Finance and Economic Planning

## Zambia's agricultural budget as a share of the national budget between 2010 and 2021



Source: Muketoi Wamunyima (PELUM Zambia), retrieved from Zambian budget speeches for the period under review

for fewer public sector employees and a wage freeze if the government wants financial assistance.<sup>25</sup>

Public spending on agriculture depends on fiscal revenue. While both Tanzania and Zambia receive donor funding in terms of grants, this source of public funds is only supplementary. In Tanzania for example, revenue forecasts were consistently higher than the actual revenue collected by the state between 2007/2008–2011/2012 and the shortfall in revenues exceeded 10% in two out of five years.<sup>26</sup>

### 4.2 Budget execution

Budget execution simply involves two components. Firstly, an assessment of the amount announced by the government to attain set targets in relation to the amount that is disbursed to different government

ministries, and secondly, the percentage of budgeted funds that are actually spent. The latter is also referred to as the absorption rate or spending performance by the different state ministries and public institutions.

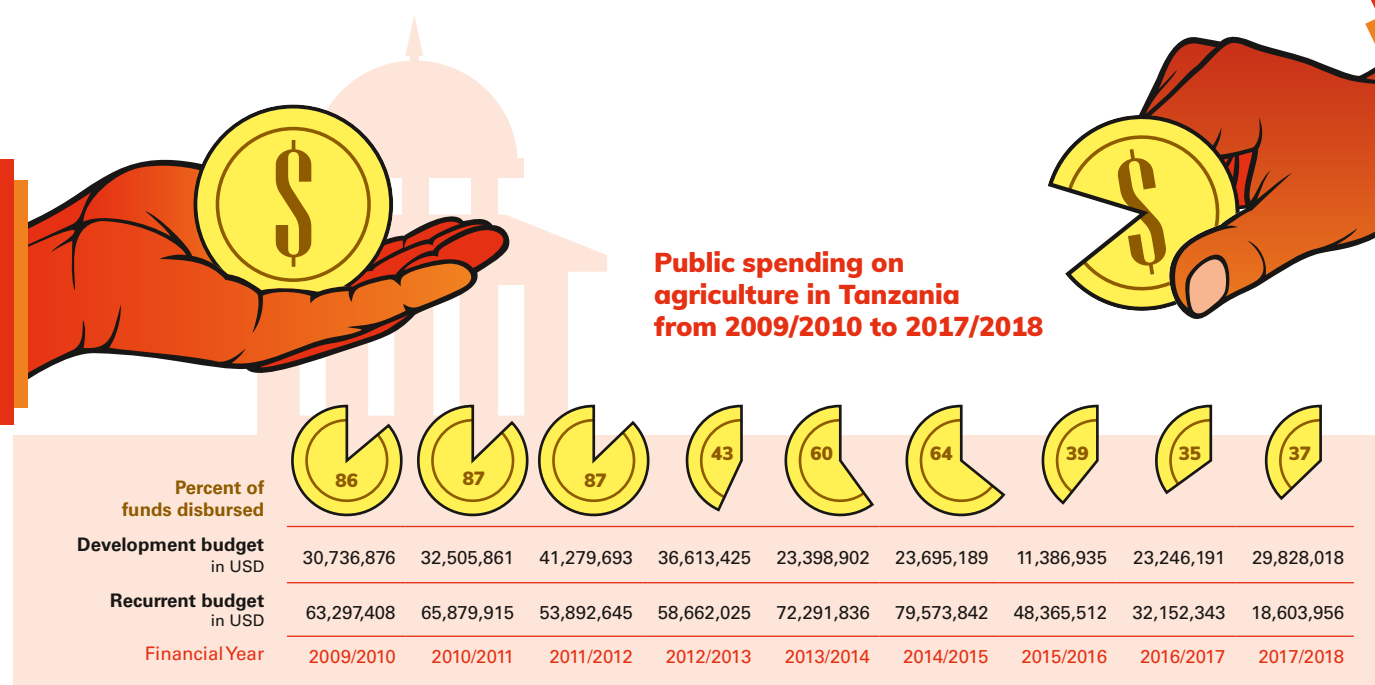
Under-disbursement means that government ministries do not receive the funds announced to the public in the official annual state budget. This generally happens when there is an overestimation of revenue by the state because funds fall short of the forecasted amounts used to determine the national budget. In Tanzania, under-disbursement by the treasury often leads to available funds being absorbed by wages and running costs. Consequently, projects get less or no funds and must be carried over to the next budget cycle. When projects are delayed often the different ministries or local government authorities only learn about the under-disbursement when quarterly disbursement notices are issued. However, unlike in

the case of state funding, disbursed donor funds for development projects are not redirected for wages and are used for designated projects even if the actual disbursement is less than the amount announced in the budget.

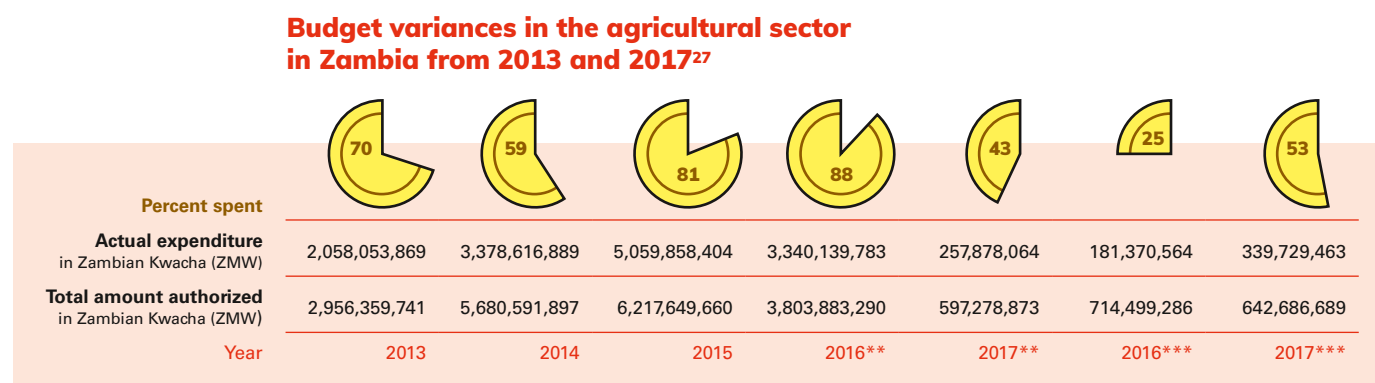
The budget year for Tanzania is from July 1 to June 30 and funds are disbursed to the district councils for budget implementation every quarter. However, even when operating with less funding due to under-disbursement, there are still issues with the absorption capacity in the implementation of the agriculture budget. The under-utilization of funds is a common occurrence, especially when it comes to capital investments such as infrastructure. For instance, in 2018/2019 the Tanzanian government disbursed circa 23 million USD for the implementation

of six agricultural development projects. Of this, about 19 million USD was spent while almost 18% was not.

A review of the funds released in Zambia indicates that most of it went to pay salaries, as well as the Farmer Input Support Programme (FISP). Programmes such as research, extension, fisheries, and forestry have low budgets and actual spending averages 50% of the authorised budgets. Under the Ministry of Fisheries and Livestock as of September 2020, 32.7% had been released for livestock production and productivity, 17.4% for fisheries production and productivity, and no funding allocated for animal health and fisheries research. Variances in actual spending compared to the approved budget, coupled with erratic disbursements of funds, are a common feature of the budget cycle in Zambia.



Sources: PELUM 2012; ANSAF 2017; Policy Forum 2021; Tanzanian Ministry of Agriculture, and Ministry of Finance and Economic Planning  
The recurrent budget includes expenditure for servicing government debt, salaries and other charges. The development budget includes expenditure for the implementation of public agriculture investments such as infrastructure, irrigation, mechanization, farm inputs, research and development and renewable energy.



Zambian Ministry of Agriculture and Livestock, \*\* Zambian Ministry of Agriculture, \*\*\* Zambian Ministry of Livestock and Fisheries  
Source: Zambian Ministry of Finance Annual Reports



This has huge implications for budget performance and the attainment of policy targets and goals. Approved budget and actual spending variances are the result of operating on a cash budget, i.e., based on government revenue for a particular period. Resources are released following a central vote by the government and the Ministry of Finance decides the allocations. This system prevents the equitable and timely release of resources.

### 4.3 Donor influence: sources of funding

Both Tanzania and Zambia receive a combination of direct grants from donor partners for the implementation of agricultural projects by the ministries of agriculture and targeted funds disbursed to projects directly, often through international development companies and organisations that work with recipient governments to implement an agricultural project for instance under a PPP. While donor funding for agricultural projects in recent years has increasingly focused on infrastructure development and environmental management, a considerable proportion of funding continues to be directed to farmer support initiatives and, to a lesser degree, research and development and extension services. In Tanzania, the percentage of public funding was 12.3% in 2000/2001 and 79.5% in 2019/2020, while funding by development partners was 87.7% in 2000/2001 and 20.5% in 2019/2020. Although foreign donor support has steadily declined over the years, it is important to note that this funding is used exclusively to implement projects and does not cover operational costs while the bulk of public funds is used to pay salaries and other administration costs. Furthermore, donor funds are used to pay general expenses and special project costs. While donors do not explicitly dictate the projects, the government is not permitted to transfer donor funds from one project to another. Donor funds are used for projects aligned with agricultural sector priorities and CAADP targets as defined in the national agriculture development strategy.

Contributions by donors to the Zambian national budget have increased over time and represent a bigger share of the government's fiscal space. In terms of its share of the overall budget, support has been as high as 43%. In the agricultural sector, the Zambian government together with its cooperating donor partners agreed on projects geared towards improving the sector as a sine qua non for the reduction of rural poverty and hunger but disagreed on how this would be achieved. Cooperating partners

have favoured investment in farming techniques and capital investment such as irrigation. The average donor support to the national budget between 2010 and 2021 was 18.54%. In Zambia, donor funding is used for programme support, and loans and grants to various sectors. As is the case in Tanzania, donor funding in the agricultural sector is used to implement specific projects or programmes which usually run for several years. The programmes that receive support from external foreign donors usually focus on increasing production and productivity by providing small-scale food producers with access to inputs, markets and infrastructure development. Furthermore, many NGOs actively deliver agricultural extension services in Zambia. Some international NGOs implement projects funded by bilateral and international development partners (IDPs). They employ staff who are dedicated to monitoring projects.

#### National budget: How donors have influenced Zambian policy since independence

During the first decade after independence in 1964, Zambia was able to finance most of its national budget to meet its developmental agenda from internal resources. This was attributed to good copper prices. External shocks of the mid-1970s changed this and Zambia became a large aid recipient, with the first conditional loan of 1973/1974 from the IMF's stabilization package after copper prices dropped. Since 1983, the WB has been a major player in development programmes in Zambia and has attached policy conditions to its assistance. Between 2000 and 2005 aid to Zambia averaged 43% of the national budget. Between 2010 and 2021, foreign financing and grants to support the national budget ranged from 4.6% to 30.5%. An assessment of how conditionalities interfered with democratization processes in Zambia revealed that the Heavily Indebted Poor Countries (HIPC) programme, launched in 1996 by the WB and IMF for instance, was used as a form of external control. HIPC was a debt relief programme for countries like Zambia with "unsustainable" debt levels. To qualify for this relief Zambia had to agree to implement austerity measures prescribed by international financial institutions. Donors were able to establish closer supervision of Zambian policies.<sup>28</sup>

## 5. Composition of public expenditure



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Input support programmes in Tanzania, Zambia and elsewhere have concentrated on maize but should promote a variety of local crops instead.

**A**ccording to the FAO, public spending on the agriculture sector is used firstly for variable input subsidies, capital subsidies and other on-farm services, and secondly to promote food access through cash transfers or direct food provision through food aid programmes and school feeding schemes. Neither Tanzania nor Zambia regards cash transfers and food aid as agricultural expenses but rather as public expenditure linked to social security and education. Therefore, we will discuss the key areas in which public funds are used, namely, farmer input subsidies, agricultural research and development, agricultural extension services and infrastructure development as well as expenditure on environmental sustainability.

### **5.1 Farmer input subsidies**

Farmer support programmes were first introduced in the 1960s and 1970s when African governments were heavily invested in small-scale food production to ensure household and national food self-sufficiency. These were largely revived in the wake of the 2007/2008 food price crisis that sparked renewed interest in agriculture among African leaders, traditional and non-traditional donors as well as multinational agribusiness and international finance alike.

Since its independence in 1961, Tanzania implemented various agricultural programmes aimed at



benefiting small-scale food producers. In partnership with the WB, the government rolled out the National Agricultural Input Voucher Scheme (NAIVS) in 2009, a market input subsidy programme designed to mitigate the sharp rise in global grain and fertiliser prices in 2007/2008. NAIVS primarily targeted comparatively well-off farmers with limited experience using “improved” seed and fertiliser but having the farming resources to apply the inputs. To receive a subsidy voucher, a farmer had to be of good repute, be engaged in full-time farming, cultivate less than one hectare of maize or rice, be willing to follow the advice of extension workers, be willing to co-finance the inputs (pay 50% of the input cost), and be willing to verify his or her use of the inputs. Within this group, preference was to be given to female-headed households and farmers who had purchased little or no inputs during the previous five years.

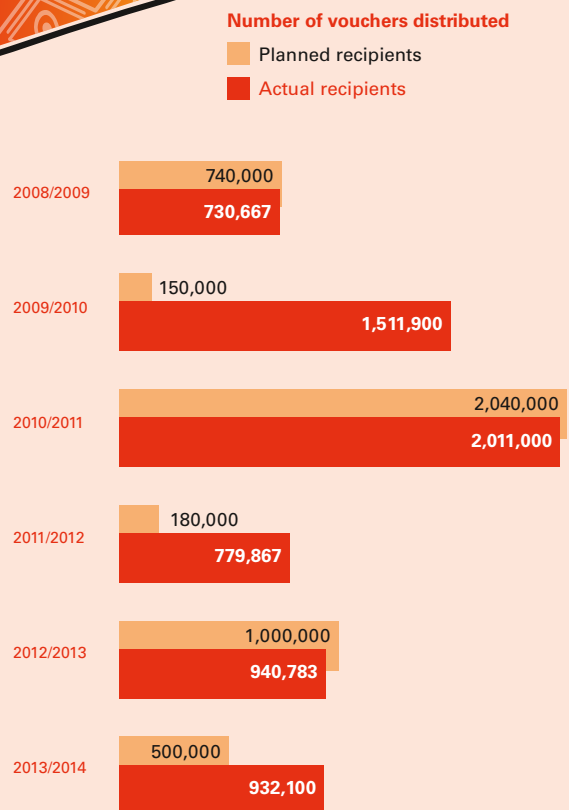
Input support programmes in Tanzania, Zambia and elsewhere have concentrated on maize, a staple food crop, providing inputs and markets for a single crop and in the process, displacing other critical ones that contribute to improved food access and nutrition. Maize accounted for 70.2% of crop output and the largest portion of the planted area in Tanzania, followed by paddy rice covering 16.8%.

In 1996 the Zambian government established the FRA originally conceived to hold buffer stocks to reduce price variability and buy maize from big millers. Between 2000 and 2005 the FRA expanded in the maize market as it started announcing the floor price for maize and became a so-called “buyer of last resort”.<sup>29</sup> This marked a return to the 1960s when marketing boards were a major player in the sector. Reintroduced in 2002, Zambia’s Fertiliser Support Programme (FSP) was launched as a temporary measure to provide subsidised hybrid maize seed and fertiliser packages to small-scale food producers and to promote the participation of private traders in supply. With the renaming and expansion of the FSP in 2009/2010 to the FISP, the scope and objectives of the programme were revised to add new targets, namely, increasing farmer incomes and

ensuring food security. The programme was designed to provide farmers with the support that would facilitate and accelerate growth in productivity and yields based on a Green Revolution package of inputs, help them commercialise, increase the scale of production and ultimately facilitate their graduation from small-scale food producers to emerging farmers and then medium-scale farmers in three years. At this point, they would no longer require state support. However, since its inception in 2003, it is doubtful whether any farmers have “graduated” because the budget allocation towards the FISP consistently increases while millions of small-scale food producers across the country remain excluded as they are yet to benefit from the programme.<sup>30</sup> The agricultural budget allocation for the



### Household beneficiaries of Tanzania’s National Agricultural Input Voucher Scheme (NAIVS) programme



Source: MAFC, Agricultural Input Section

FSP in 2003 was 0.5%, however, the budget share towards FISP between 2015 and 2021 varied between 33% and 80%. The private sector has largely benefitted from this programme, with the number of commercial seed and fertiliser companies growing and new local companies competing with established MNCs that dominate the sector. Companies dominating the seed sector in Zambia for example include Seedco, Zamseed, Syngenta, Pannar, Afriseed, Bayer (formerly Monsanto) and local seed companies such as Kamano and Zambezi Seed. The number of local private agro-dealers has also increased.

Moreover, input support programmes impact the budget allocations for other agricultural programmes such as extension, research and development, which play an integral role in fostering sustainable food production systems and supporting small-scale food producers to access information and develop strategies for responding to immediate and recurring challenges and identify opportunities. Yet, even with marginal allocations, these programmes fail to receive their approved full funding.

## 5.2 Agricultural research and development

While there is considerable variability in investment in agricultural research and development across different regions, by and large, African countries have historically underinvested in this area compared to other regions in the Global South, with much of the investment coming from donors including bilateral country partners, public development agencies and MNCs.

The Tanzanian Agricultural Research Institute (TARI) is mandated to conduct, regulate, promote and coordinate all agricultural research activities conducted by public and private research institutes or organisations in the country. During the colonial era, research was limited to export crops such as coffee, cotton, sisal, tea and tobacco. After independence, the focus shifted to food crops and livestock produced by small-scale food producers. Networks of publicly-funded research stations and substations were established in the major agroecological zones under the Department of Research of the Ministry of Agriculture and Livestock Development (MALD). Agricultural research involved participating in regional and international programmes and initiatives to tap into technological advances from elsewhere. Government funding of TARI's work was erratic in nominal terms from 2005/2006 to 2010/2011,

### Periods of research and development spending in Tanzania

#### 1980 – 1995

Agricultural research was overseen by the Tanzania Agricultural Research Organization (TARI), an arm's length organization, from 1980 to 1989. The Ministry of Agriculture took direct control in 1989, and consolidated research stations into a zonal system, with a zonal research institute in each zone. Research institutes that focused on a specific crop were privatized. Structural adjustment programs (SAPs) introduced by the IMF and WB in the 1980s and 1990s reduced the funding available and a lack of resources made it difficult to maintain the research infrastructure and retain staff.

#### 1996 – 2011

Agricultural research spending in Tanzania was low relative to other countries in sub-Saharan Africa, at 0.54 USD per hectare from 1996 to 2011. Low spending presented obstacles to agricultural research, including a freeze on recruitment in the research system from 1995 to 2005. However, the rate of return to agricultural research expenditure per hectare was strong, at 162% over the 1996 to 2011 period.

#### 2012 – 2015

Spending on agricultural research and development was low, at only 0.6% of the agricultural budget. Extension services performed better, ranking above many East and Southern African countries, but issues with knowledge dissemination and implementation persisted.

increasing from 2005 to 2008, before declining again in 2009. The notable increase observed in 2009/2010 funding was primarily the result of the Eastern Africa Agricultural Productivity Programme (EAAPP), which

is financed through a WB loan. The programme aims to establish a regional rice centre of excellence in Tanzania at a total cost of 30 million USD over five years. Tanzania only invested 0.17% of its agricultural budget in research and development in 2016, well below the 1% target recommended by the African Union (AU) through CAADP and the United Nations (UN). Spending by TARI and by Tanzania Livestock Research Institute (TALIRI) exhibited an alarmingly volatile and dwindling trend between 2000 and 2016,

mainly due to less government and donor funding. This underinvestment in the country's agricultural research system has hampered operations and research activities at both institutes.

The Zambia Agriculture Research Institute (ZARI) is a department in the Ministry of Agriculture. Its purpose is to generate and adapt crop and soil technologies to increase agricultural productivity and diversify production as well as develop a low-cost sustainable farming system for all. Therefore, ZARI is responsible for developing seed varieties and improvements suited to different agroecological conditions and focuses on both hybrids and open-pollinated varieties (OPVs). The dissemination of information on different seed varieties and soil health is carried out by the government's extension services. However, ZARI concentrates on high-value cash crops and those favoured by the private sector such as wheat and soya beans, alongside maize, which has been its core focus for decades. This has resulted in the lack of quality breeder and foundation seeds for traditional and self-pollinated crops in Zambia. Between 2013 and 2019, ZARI received, on average, only 30% of its officially allocated budget, a factor that drastically undermines the service delivery of the Ministry of Agriculture and its contribution to the sector and economy.

### 5.3 Agricultural extension services

By December 2019, Tanzania had a total of 7,307 agricultural extension officers, 3,795 livestock extension officers, and 419 fisheries extension officers. The number of officials is wholly insufficient considering that Tanzania has 3,956 wards, 12,319 villages, and

4,263 Mtaa<sup>31</sup> each in need of agricultural extension officers to disseminate information about various technologies to small-scale food producers, including livestock producers and fisherfolk. Apart from this, the officers have no tools or transport to enable them to meet small-scale food producers. There are at least 250 households over a widespread area in a single village. Before decentralization, the Ministry of Agriculture provided extension services throughout the country. Government control meant there was no interaction with other stakeholders in the agricultural sector who provided farmers with extension services, the majority of whom are private companies or private non-profit agencies. The latter may be further classified into member-based organizations, such as producer and community organizations, and NGOs. In most cases, private agencies do not specialize in providing advisory services only but combine them with other services.

**Historically the government provided extension services but several other extension and advisory service providers entered the space in the early 1990s when it suspended agricultural development programmes and policies that offered farmer support under the SAPs.**

In Zambia, extension services are delivered either by farm institutes, livestock service centres and farmer training centres or by a network of agricultural blocks and camps for fisheries, crops and livestock.<sup>32</sup> After independence, the Zambian government set up farmer training centres in agriculturally strategic districts and a farm institute in each of the country's then nine provinces.<sup>33</sup> Farmer training centres were established to teach farmers improved farm management practices while farm institutes catered for in-service training of extension staff and provided advanced training to small-scale food producers. On average, only 56% of the official budget allocated to the Ministry of Agriculture for extension services was disbursed between 2013 and 2019 while the Department of Livestock received 25% of its allocated budget over the same period. Fisheries and fisheries research received 42% and 18% respectively for the same period. The Department of Agriculture, received 44% of its budget to oversee extension and information

dissemination. Meanwhile, the farming population has burgeoned in recent decades, despite the rapid growth in urbanisation. This has resulted in the current extension worker-to-farmer ratio of 1:1,200 for crop production and 1:300 in the case of livestock production. Historically, the government provided extension services but several other extension and advisory service providers entered the space in the early 1990s when it suspended agricultural development programmes and policies that offered farmers support under the SAPs. The new actors are private sector players, NGOs, IDPs and farmer organisations. The private sector players include major seed companies that deliver extension and advisory services. In Zambia, players in the cotton, sugar cane, and tobacco sectors are also active in providing extension and advisory services to their respective clients.

#### **5.4 Infrastructure development**

In both Tanzania and Zambia, infrastructure development in rural areas is financed through different ministries. Specifically, for agriculture, the main infrastructure development funding is geared towards roads, grain storage, agricultural training centres, and irrigation infrastructure such as dams, electricity, power and communication towers. With more than 80% of the agricultural budget allocated to the FISP and FRA in Zambia, most infrastructure development in the country is donor-funded. The WB and the African Development Bank (ADB) have paid for most of the irrigation infrastructure as well as the road network. In 2020, the WB approved a 30-year loan for the Irrigation Development Support Project (IDSP) worth 30 million USD. The Zambian government requested the restructure of the IDSP for a second time in January 2020, to commence a Phase 1 maintenance plan on ten dams that were constructed/rehabilitated under the WB-funded “Water Resources Development Project” which closed in November 2018.

In 2013, Tanzania established the National Irrigation Commission (NRC) to coordinate, promote and regulate the development of the irrigation sector. The commission oversees PPP projects. Irrigation falls under the Tanzanian Ministry of Water and Irrigation and not agriculture.

#### **5.5 Expenditure on environmental sustainability**

In Tanzania, there is no specific budget for environmental sustainability. However, the Ministry of Agriculture has an Environmental Management Unit that is tasked with providing expertise on environmental management and climate change within the agricultural sector. During the 2017/2018 financial year, a total of 44.82 million USD equivalent to

**In Tanzania, there is no specific budget for environmental sustainability. However, the Ministry of Agriculture has an Environmental Management Unit that is tasked with providing expertise on environmental management and climate change within the agricultural sector.**

0.38% of the national budget, and 7.9 million USD equivalent to 0.05% of the 2019/2020 national budget, was set aside for environmental and natural resources management activities that support the agricultural sector. The funds were directed to several projects and programmes including Enhancing Forest Nature Reserves Network and Forestry Value Chains Development Programme, Support Climate Adaptation Programme, the National Biosafety Programme and the Ozone Depleting Substance Programme.

In Zambia, funds in the Ministry of Agriculture budget are partly used to support extension service delivery, where farmers are trained on agricultural practices that promote environmental sustainability. With the support of donor funding, the Ministry of Agriculture established the Conservation Farming Unit, funded by UKAid. The main objective of the project is to provide small- and medium-scale farmers with knowledge and provide space for practical training on the adoption of conservation farming and agricultural practices. In Zambia, the government allocation for environmental sustainability has averaged 0.48% of the national budget over the past ten years.

#### **5.6 Outcomes**

Undoubtedly, increased food production and supply for local markets are imperative to counter the barrage of climate, political, financial and other crises

affecting the cost and access to food, however, the current agricultural policies and strategies driving investment flows and public expenditure on agriculture raises much concern about the future of food and agriculture in Africa as a whole and in Tanzania and Zambia in particular.

Donor funding continues to be directed towards the production of a very limited amount of selected crops such as maize and rice in Tanzania and maize and legumes in Zambia and to a lesser degree cassava in both countries. In terms of agricultural research, the promotion of monocultures stifles biodiversity and displaces important traditional food crops. Furthermore, with larger areas under production, there is the risk that we destroy the environment through deforestation. In Tanzania for example, between 2010/2011 and 2018/2019, fewer traditional food crops were cultivated. According to data collected by the Ministry of Agriculture for mainland Tanzania, the production areas decreased as follows: bambara nuts from 65 thousand to 33 thousand hectares; bananas from 523 to 302 thousand hectares; cowpeas from 218 to 112 thousand hectares; finger millet from 137 to 71 thousand hectares; pigeon pea from 288 to 87 thousand hectares; sorghum from 811 to 641 thousand hectares; sweet potato from 699 to 539 thousand hectares; and bulrush millet from 215 to 198 thousand hectares.

In addition, promoting a limited variety of crops goes hand in hand with the use of agro-chemicals, inorganic fertilisers and “improved” seeds, mainly hybrids. This has detrimentally affected the environment, especially soil, water catchment areas and aquifers. The extent and magnitude of land degradation have increased from 42 % in 1980, and 50 % in 2012 to an estimated 63 % in 2018. In Tanzania, the economic value of land lost to degradation per annum is estimated to be 10.2 billion USD. The use of inorganic fertilisers is also untenable as demonstrated by border closures during the COVID-19 pandemic and the impact of the war in Ukraine on prices and supply.

The transformation of the agricultural system in Tanzania has been driven by government investment in inorganic fertilisers and pesticides. In 2008/2009, approximately 14.7 % of households used pesticides which fortunately decreased to 5 % in 2014/2015.

However, the use of inorganic fertilisers increased significantly over time reaching about 126,000 tonnes in 2003/2004 compared to 995,000 tonnes in 2015/2016.

Agriculture is integral to the livelihoods of Zambia’s people. Despite the government’s promise to lessen the blows of climate change on vulnerable small-scale food producers, productivity remains low and poverty is pervasive. Women are disproportionately affected by these impacts, given their role of ensuring household food production and food/nutrition security. The Rural Agricultural Livelihood Survey (RALS) 2019 shows that women-headed households derived a slightly higher income of 61 % from farming activities when compared to male-headed households at 58 %. The survey also indicated that the average income of small-scale food producers was approximately 984.69 USD of which 58.5 % came from farming activities such as crop, livestock and vegetable sales and the remainder from off-farm activities such as wages. This shows how dependent small-scale food producers are on agriculture. It is a general practice that they must engage in other economic activities or employment to sustain their livelihoods throughout the year.

**Undoubtedly, increased food production and supply for local markets are imperative to counter the barrage of climate, political, financial and other crises affecting the cost and access to food, however, the current agricultural policies and strategies driving investment flows and public expenditure on agriculture raises much concern about the future of food and agriculture in Africa as a whole and in Tanzania and Zambia in particular.**

The Zambian government has relied on the FISP programme to transform the sector and increase production and productivity. The programme has swallowed up most of the agricultural budget since 2003 and focused on using hybrid seed, inorganic fertiliser and other synthetic inputs. Crop production trends over the years show that maize has performed better in yields compared to other crops and is an indication of how slow diversification has been in the sector.



## 6. Governments need to restructure their spending on agriculture



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Public spending should explicitly be geared towards small-scale food producers and women and youths as target groups.

**T**his report has analysed the different aspects of public spending on agriculture in Tanzania and Zambia including the overall budget allocation to the sector, the amount of support it receives from donors, as well as government expenditure on ensuring environmental sustainability, and expenditure on research and extension services.

Agricultural development strategies in both countries aim to deliver much-needed investment to the sector while supporting small-scale food producers on multiple levels from knowledge transfer and skills

development to the supply of inputs and access to markets. However, this overemphasis has opened the door to big agribusiness capital and a range of players with varying interests to not only participate in the sector and create new markets, but also expose small-scale food producers to multiple risks – from changing patterns of access and control of land and other resources to growing indebtedness as they seek to remain competitive in increasingly concentrated supply chains.

Agricultural production is low, as can be seen in its declining contribution to GDP, and imports

are higher than exports. Low productivity has been attributed to inadequate farming practices, decreasing soil fertility as a result of a combination of overuse and misuse of inorganic fertilisers and pesticides, and land degradation as well as adverse climatic changes. Despite almost 18 years of huge budget allocations to the input support programmes in Zambia, maize yields have only marginally increased, rural poverty remains high, and the use of hybrid seed and fertiliser has increased among small-scale food producers. The private sector has largely benefitted from this programme, with greater numbers of commercial seed and fertiliser companies in the country, and new local ones competing with established MNCs that dominate the sector. There are also more local private agro-dealers. The breeding, supply and sharing of local seed have significantly waned for crops such as groundnuts, maize, millet, and sorghum.

### **Political recommendations**

The purposeful and prudent use of public funds can make all the difference in transforming food systems in Africa if governments have the will to do so. By providing small-scale food producers with the tools and resources they need to succeed, public spending can help to increase food production, reduce poverty, and improve food security.

**Environmental sustainability:** Public spending should be geared towards ensuring environmental sustainability by protecting natural resources and the environment through targeted investment in agro-biodiversity. Programmes should focus on crop diversity. Indicators that can be used to evaluate state programmes: (a) share of the agricultural budget for initiatives/programmes dedicated to the protection of natural resources and the environment and (b) the share of staple crops and diversity of traditional crops as compared to cash crops in the total available agricultural area and their development over time.

**The resilience of agricultural systems:** Public spending should be geared towards improving the resilience of agricultural systems by reducing the use of inorganic fertilisers and pesticides and promoting alternatives instead. This will help African countries become less dependent on external inputs, withstand shocks, and improve soil fertility. Suggested indicator to measure: Reduction in the use of synthetic fertilisers and pesticides over time and increase in public spending to promote agroecological practices.

**However, this overemphasis has opened the door to big agribusiness capital and a range of players with varying interests to not only participate in the sector and create new markets, but also expose small-scale food producers to multiple risks – from changing patterns of access and control of land and other resources to growing indebtedness as they seek to remain competitive in increasingly concentrated supply chains.**

**Target small-scale food producers and focus on women and youth:** Public spending should explicitly be geared towards small-scale food producers and women and youths as target groups. Small-scale food producers feed the majority of people in African countries. To continue doing so in the future they need support from the state through the creation of markets and grain storage facilities, secure land tenure and the recognition and promotion of farmers' seeds. Suggested indicators to evaluate public spending: (a) proportion of programmes that explicitly identify agroecological small-scale food producers as target groups as opposed to programmes that target and focus on commercialisation and driving small-scale food producers to simply increase scale of production (b) proportion of programmes that explicitly identify women and youths as target groups.

**Public research and extension services:** Public spending should be designed to promote publicly-funded research as well as extension services. Research activities and extension services should promote partnerships between researchers and farmers, and the extension officers should focus on agroecological practices. Suggested indicator to track state interventions: Share of the agricultural budget that goes into public research and extension services with a focus on agroecology.



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- In 2011, Zambia went from being a country with nine provinces to ten when Muchinga was created by splitting it from the Northern Province. More information available at:** <http://riskprofilesundrr.org/layers/geonode/provinces>.





