FISP AND FRA REFORMS
Investing Savings into a Package of Smart Social Protection Schemes for Zambia
By Luke Harman & Antony Chapoto
FISP and FRA Reforms

INVESTING SAVINGS INTO A PACKAGE OF SMART SOCIAL PROTECTION SCHEMES FOR ZAMBIA

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About IAPRI

Established in 2011, Indaba Agricultural Policy Research Institute (IAPRI) is Zambia’s first indigenous policy research institute dedicated to policy analysis of the agricultural and environmental sectors. IAPRI is a non-profit company limited by guarantee and collaboratively works with public and private sector stakeholders. The Institute’s vision is: “A Zambia free of hunger, malnutrition and poverty through sustainable agricultural transformation”.

IAPRI exists to carry out agricultural policy research and outreach activities, serving the agricultural sector in Zambia to achieve sustainable pro-poor agricultural development. The Institute sees the improvement of rural livelihoods as the key to achieving broad-based poverty reduction in Zambia. Achieving this entails enhancing smallholder agricultural productivity, expanding agricultural markets and trade, improving natural resource management, and expanding the resilience of vulnerable households to external shocks.

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- Producing authentic, impartial, and high-quality research on agricultural, food, and natural resource policy issues in Zambia and the wider Southern African region;
- Integrating research findings into national, regional, and international programs and policy strategies to promote sustainable agricultural growth and alleviate hunger and poverty in Zambia; and
- Supporting the development and strengthening of capacity for policy research, analysis, and outreach of public and private institutions in Zambia.
Executive Summary

A win-win-win scenario for GRZ and Zambians

This paper sets out how the Government of the Republic of Zambia (GRZ) can reform the Farmer Input Support Programme (FISP) and Food Reserve Agency (FRA) to deliver a popular, and economically and socially beneficial, set of policy measures that will deliver a ‘Triple win’ for the people of Zambia. Our proposals show that the GRZ can achieve a ‘win-win-win’ policy change comprised of:

(i) maintaining FRA and FISP, but in an economically justified form;
(ii) using savings from FRA and FISP reform to enable GRZ to significantly expand more effective and electorally popular social protection policies; and
(iii) still having substantial fiscal savings left over to invest in other measures, including stabilising the public finances

Win 1: Reform FRA and FISP into an economically justified form to generate substantial savings

We propose a series of economically and socially smart reforms to FRA and FISP, which are designed to be implemented gradually and built on recent changes to both programmes. Specifically, we recommend the following:

- FRA: revise the proposed GRZ amendments to the FRA Act so that the role of FRA is focused on its core function of providing a strategic reserve, and reducing the reserve from 500,000 MT to 300,000 MT over a two-year period.
- FISP: in line with recent reforms, shift all beneficiaries to the e-voucher, but also gradually reduce the number of targeted farmers from 1,000,000 for the 2017/2018 season to 750,000 in 2018/2019, and then to 500,000 by the 2019/2020 season.

Combined, these reforms would see the FISP and FRA continue to operate on a more economically justifiable footing, and would generate annual fiscal savings in the region of ZMW 1.263 billion (approximately US$ 133.9 million).

Win 2: Invest 60 percent of the savings in more economic and socially beneficial social protection policies

We recommend that at least 60 percent of the savings raised from FRA and FISP reform are reinvested in significantly scaling-up social protection policies, including significantly increasing the number of social cash transfer beneficiaries. Such investment could enable GRZ to significantly increase the overall number of beneficiaries of the three existing programmes by 1.36 million, from using just 60 percent of the savings from the FISP and FRA reforms. Specifically:

- An increase of 225,000 beneficiaries of Social Cash Transfers;
• An increase of 155,000 beneficiaries of the Food Security Pack; and
• An increase of 983,500 children accessing a free school meal.

The expansion of these three schemes has the advantage of directly supporting household food security and agricultural production in the country. To demonstrate the investment opportunities provided by FISP and FRA reforms, GRZ could alternatively use 60 percent of the savings to increase the number of households benefitting from the Social Cash Transfer by around 581,082.

These substantial increases in coverage more than cover any loss of beneficiaries under FISP and FRA reforms, and crucially, would be much better targeted at those who need it, with the associated impacts on poverty reduction and supporting broad-based economic growth.

**Win 3: Still have substantial savings left to invest elsewhere**

Even after investing a share of the savings in the three social protection measures, considerable financial resources would still remain: between ZMW 567 million and ZMW 782 million over two years. It is proposed that these could either then be re-invested directly into the agricultural sector through sector-wide investments aimed at boosting productivity and job creation (e.g. in irrigation, extension services, and research and development) or alternatively used to pay down Zambia’s debt liabilities, which currently cost the treasury dearly through interest payments.

The FISP and FRA reforms, combined with the proposed investments in the social protection measures, would not only yield substantial economic and social benefits, but would also be politically popular by allowing the government to expand its support to a substantially larger number of citizens, thereby demonstrating its commitment to pro-poor growth and development.
Acknowledgements

The Indaba Agricultural Policy Research Institute (IAPRI) is a non-profit company limited by guarantee and collaboratively works with public and private stakeholders. IAPRI exists to provide evidence-based policy solutions through high quality research and outreach services for transformation of Zambia's agricultural sector to achieve sustainable broad-based pro-poor growth.

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

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<th>Description</th>
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<tr>
<td>E-FISP</td>
<td>Electronic Farmer Input Support Programme</td>
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<td>EFSP</td>
<td>Expanded Food Security Pack</td>
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<td>E-voucher</td>
<td>Electronic Voucher</td>
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<td>FAO</td>
<td>Food and the Agriculture Organization of the United Nations</td>
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<td>FISP</td>
<td>Farmer Input Support Programme</td>
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<td>FRA</td>
<td>Food Reserve Agency</td>
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<td>FSP</td>
<td>Food Security Pack</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GES Programme</td>
<td>Growth Enhancement Support Programme</td>
</tr>
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<td>GRZ</td>
<td>Government of the Republic of Zambia</td>
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<tr>
<td>HGSF</td>
<td>Home Grown School Feeding</td>
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<tr>
<td>MCDSS</td>
<td>Ministry of Community Development and Social Services</td>
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<tr>
<td>MT</td>
<td>Metric Tonnes</td>
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<tr>
<td>SCT</td>
<td>Social Cash Transfer</td>
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<tr>
<td>SCTP</td>
<td>Social Cash Transfer Programme</td>
</tr>
<tr>
<td>SRB-MIS</td>
<td>Single Registry of Household Beneficiaries Management Information Systems</td>
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<tr>
<td>WFP</td>
<td>World Food Programme</td>
</tr>
<tr>
<td>ZAMACE</td>
<td>Zambia Commodity Exchange</td>
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<tr>
<td>ZMW</td>
<td>Rebased Zambian Kwacha</td>
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<td>ZNFU</td>
<td>Zambia National Farmers Union</td>
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1. Introduction

This paper sets out a package of economically, socially and politically smart policy options that involve investing a share of the savings from essential reforms of Zambia’s Farmer Input Support Programme (FISP) and Food Reserve Agency (FRA), into a package of social protection measures. These measures would not only significantly increase the number of poor and vulnerable households and individuals reached by government, but also directly and indirectly support Zambia’s agricultural and overall national policy objectives. The policy options provide a ‘triple win’ of ensuring that the FISP and FRA remain, but in an economically justified form, expanding government support to a greater number of Zambian citizens, while still having fiscal savings left over.

Calls for reform of the FISP and FRA are not new, with a long history of criticism over: their substantial cost to the Treasury; limited returns in terms of any stronger or more diversified agricultural sector; a lack of evidence over any impacts on national poverty levels; and even evidence of negative impacts on certain segments of society.

The need to revisit reform of the FISP and FRA is now particularly timely for three main reasons. First, the state of the Zambian economy is such that the government has needed to establish an Economic Recovery Plan (ERP) with a potential package of support from the International Monetary Fund (IMF). Fiscal space is narrowing and keeping on track now calls for an honest and careful consideration of key areas of government expenditure and whether reforms can be made that will achieve more with less.

Second, patience with the repeated failings of the FISP and FRA has been wearing very thin among a wide range of actors, with numerous Government pronouncements over plans to reform both. A demonstrated and time-tabled commitment to reform these programmes would represent a very positive indication of the genuine desire of Government to bring about pro-poor reform that benefits a greater number of those in need, while still supporting productive growth-supporting investments in the country. The current situation of such high poverty levels simply holds back a
significant portion of the population from playing a more productive role in the Zambian economy both as producers and consumers.

Third, Zambia now has fairly extensive experience of implementing a range of social protection programmes, and is in the process of developing an Integrated Framework for Social Protection Programmes. This puts it in a strong position for complementing reform of the FISP and FRA with the scale up of a range of schemes that would not only help better achieve efforts at reducing poverty and the high levels of malnutrition in the country, but also underpin the realisation of core agricultural policy objectives. Indeed, the large majority of the proposed beneficiaries of the FISP and FRA savings would still be farmers, albeit ones that are in greater need of government support, and this paper highlights how the social protection measures would still increase demand for agricultural inputs and products.

Overall, this paper responds to the following questions:

i. What aspects of the FISP and FRA need urgent reforms over the medium-term and why; and how should they be reformed as part of a medium-term policy package?

ii. What is the rationale for looking to social protection measures to complement Zambian agricultural policy, and what package of social protection schemes would serve to complement agricultural policy objectives while at the same time increasing support to a greater number of Zambia’s poor and vulnerable population?

iii. Who would be the winners and losers of such reforms, and what are the key implications of this for a workable policy package?

The paper addresses these questions through analysis of secondary evidence gathered from research reports and academic literature, along with consideration of the political dimensions to reform, and use of primary evidence gathered through discussions with relevant stakeholders in Zambia.

Overall, the paper finds that the proposed reforms to the FISP and FRA are critical for ensuring both initiatives return to a state of being justified on economic grounds, and would achieve substantial fiscal savings that could be drawn upon to increase coverage of a very considerable number of poor and vulnerable households across Zambia. In turn, this would demonstrate the
government’s support for genuine pro-poor reform. Moreover, the policy packages presented for expansion would contribute heavily to policy goals of the agricultural sector and social protection of improving food and nutrition security and strengthening livelihoods.

The remainder of the paper proceeds as follows. Section two presents a background to the agricultural sector including the FISP and FRA, with evidence on their performance. Section three draws out lessons from past experiences of price subsidy reform internationally and within Zambia. Section four presents the proposed FISP and FRA reforms. Sections five and six then introduce the experience of social protection in Zambia with evidence on a number of schemes before setting out a suite of options including two specific costed packages. Section seven presents the conclusion.
2. Background and Evidence on Agriculture in Zambia

This section provides a brief overview of the agricultural policy landscape, introducing the two government schemes that form the main focus of this paper. It also offers a headline summary of related evidence.

2.1 Overview of FISP and FRA

With nearly 50 percent of Zambia’s total employed population working in agriculture (60 percent of whom live in the rural areas), and many more dependent upon the sector indirectly, a productive and well-functioning agricultural sector is critical to the economic and social wellbeing of Zambia’s citizens (CSO, 2015a,b). Zambia also depends heavily on the sector for its foreign exchange earnings, with agricultural exports worth US$ 670,716,000 in 2015, with maize and maize products accounting for 30 percent of this (Indaba Agricultural Policy Research Institute (IAPRI), 2016a).

Given the importance of smallholder agriculture and maize production in Zambia, a core part of the ‘social contract’ between the government and Zambian citizens since independence has been for government to keep maize prices low for urban consumers while keeping the prices up for maize producers. The latest set of policy tools aimed at achieving this has been FISP and the FRA, which between 2003 and 2017 took up between 30 and 60 percent of the total agricultural budget each year (IAPRI, 2017).

The essence of the FISP has been to provide agricultural input subsidies to selected farmers through cooperative and farmer associations, primarily for fertilizer and hybrid maize seed, but more recently expanding to rice, sorghum, cotton and groundnuts. Subsidy rates have varied over time depending on the input, with farmers paying between just 50 percent and 21 percent of the market price for fertilizer between 2002/2003 and 2011/2012 (Mason, Jayne and Mofya-Mukuka, 2013). The volume of fertilizer subsidised by the government has increased over time, from 40,000 Metric Tonnes (MT) to over 182,000 MT in 2011/2012, and the number of intended beneficiaries
increasing from 120,000 to 914,670 over the same period. However, the fertilizer pack size intended for each farmer was halved, from eight 50Kg bags to four 50Kg bags, effectively allowing for the doubling of beneficiaries.

The most recent innovation in the FISP has been the piloting of the electronic voucher (e-voucher). This development was intended to address a number of weaknesses in the earlier FISP design, by giving freedom to farmers to choose inputs appropriate for them, allowing for more timely access to inputs, nurturing rather than hindering private sector input markets, reducing costs, and improving accountability. The e-voucher system was trialled in 13 districts in the 2015/2016 agricultural season to target 241,000 farmers. The pilot was further expanded in 2016/2017 to 39 districts, and during the 2017 budget speech, the Minister of Finance, the Honorable Felix Mutati, announced the GRZ’s intentions to roll out the e-voucher to the rest of the country in the 2017/2018 season. This was reinforced by a decision on 7th June 2017, by the Cabinet to implement FISP through the e-voucher system to 100 percent of targeted farmers in all 109 districts in the country (NAZ, 2017).

In the approved 2017 budget, FISP was allocated a total of ZMW 2.8 billion, of which around ZMW 1.7 billion is set to be spent on the e-voucher system with the balance of ZMW 1.1 billion being committed to clearing an outstanding debt to input suppliers and service providers from previous seasons (NAZ, 2017).

In terms of the the FRA, the Agency was first established in 1996 as the implementing arm of the Food Reserve Act passed in 1995. At the time, its mandate was strictly focused on buying and holding national strategic food reserves and achieving market price stabilisation (Chilundika and Mulungu, 2016). However, over time, the remit and operations of the FRA has been greatly expanded beyond its original mandate from being given the authority to get involved in marketing activities, to moving from buying less than two percent of national maize production to purchasing a staggering 83 percent between 2010 and 2012 (Kuteya and Sitko, 2014).

At present, the FRA is formally mandated by Zambian law to ‘administer the strategic food reserves, engage in market facilitation, development and management of the national storage facilities’. In more practical terms, its mission is ‘to ensure national food security and provide market access for rural based smallholder farmers by maintaining a sustainable national strategic food reserve’. The FRA’s primary operations involve the purchase of maize from farmers at above
market prices and then storing and selling the grain at a fixed price to consumers and maize millers. The current annual strategic grain reserves target is set at 500,000 MT.

Whereas, the shift to the e-voucher represents significant reform to traditional FISP, reform of FRA has been more incremental, and now there are worrying signs that these small but significant reforms will be undermined by the proposals set out in the draft FRA Bill. On the positive side, FRA has in the current marketing season restricted its purchases to the target of 500,000MT, and moreover, purchased maize at a similar level to the prevailing market price. Both moves are significant, as previously FRA would considerably exceed the strategic grain reserve target and pay an above market price, placing an enormous financial burden on the exchequer. However, in November 2017, the GRZ published a draft Bill, which proposes to extend the marketing activities of FRA, in particular on the export side. This is a move which could potentially undermine the agricultural sector in Zambia. We recommend that the GRZ should use the draft Bill as an opportunity to scale back, rather than expand the role of FRA.

2.2 Performance of FISP and FRA against their stated objectives

While the FISP and FRA both aim to address very real problems and concerns around maize production and food security in Zambia, given the substantial share of the agricultural budget that they collectively take up and the associated high opportunity costs (i.e. the foregone benefits from alternative uses of the same expenditure), it is important to interrogate the returns being achieved for the country. As these arguments have been written about elsewhere, below we briefly consider the performance of each initiative against its own formally stated objectives, which are set out in Table 1, along with the intended beneficiaries.
Table 1: Overview of key agricultural intervention aims and intended beneficiaries

<table>
<thead>
<tr>
<th>Strategic aims</th>
<th>Overview of intervention</th>
<th>Intended beneficiaries</th>
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<tr>
<td><strong>FISP</strong></td>
<td>Subsidised input packs given to selected farmers through their farmer organisations. Packs available for maize, sorghum, rice or groundnuts and include different combinations of fertilizer and seed. Each farmer allocated one pack of inputs for cultivation of 0.5 Hectares (Ha) of maize and/or 0.5 Ha of sorghum. Additional pack for production of commercial crop given to selected farmers. Farmers make a co-payment for inputs received (e.g. representing up to 75 percent subsidy for maize fertilizer).</td>
<td>Targeting criteria: • Registered small-scale farmer who is a member of a farmer organisation and actively involved in farming within the camp coverage area; • Cultivating up to a maximum of 5 Ha of land; • Have the capacity to pay the prescribed farmer contribution towards the total cost of an input pack; • Not concurrently benefitting from the Food Security Pack (FSP) Programme; and • Not a defaulter from any agricultural credit programme. Note: Local chiefs also targeted with two subsidised input packs (8 bags of fertilizer and 2 bags of seed).</td>
</tr>
<tr>
<td><strong>FRA</strong></td>
<td>FRA makes annual purchases from farmers at favourable prices to generate national grain reserve (target 500,000MT maize). Maize stocks managed and then sold by FRA at fixed prices to large scale millers and sometimes smaller scale millers and individuals to offload strategic reserves.</td>
<td>Consumers and smallholder maize farmers</td>
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2.2.1 Evidence on the FISP shows that the FISP’s objectives may be broken down into several sub-objectives, against which we can assess its performance:

i. Improving the supply of agricultural inputs to small-scale farmers
ii. (doing the above) through sustainable private sector participation
iii. (doing the above) at affordable cost
iv. Increasing household food security and incomes

Drawing from the existing evidence, we briefly consider each of these in turn.

**i. Improving the supply of agricultural inputs to small-scale farmers...**

While the FISP can certainly be credited with improving the supply of agricultural inputs to farmers, a large number of studies show that subsidised fertilizer has been disproportionately captured by wealthier farmers. Mason, Jayne and Mukuka (2013) found that although 73 percent of smallholder households cultivated less than 2 Ha of land and were part of the 78 percent of the smallholder farms that are below the US$ 1.25/capita/day poverty line, the majority (55 percent) of FISP fertilizer was received by households that cultivated larger areas’.

A further problem with the traditional FISP, relating to the heavy state involvement in fertilizer distribution, is that of leakage of the fertilizer before it reaches beneficiaries, leading to far lower levels of use among intended beneficiaries. This was estimated to represent about 38 percent of the total subsidized fertilizer by comparing the quantities of programme fertilizer specified in official government documents against the receipts of subsidised fertilizer by farmers in nationally representative Crop Forecast Surveys (Mason and Jayne, 2013).

**ii. ...through sustainable private sector participation**

The FISP has failed to improve the supply of agricultural inputs ‘through sustainable private sector participation’. Instead, the traditional FISP involved sourcing from a few selected suppliers and, as a result, 22 percent and 35 percent of households in 2010/2011 and 2013/2014 respectively reported receiving the fertilizer late, lowering yields and national maize output (Nkonde, 2016). In
addition, studies have shown that the traditional FISP crowded out the private sector (ACF, 2009; World Bank, 2010).

iii. ...at affordable cost

On cost, again the traditional FISP falls short against its objectives. The substantial budgetary allocations to the FISP have instead represented a considerable share of the Government’s agricultural budget, preventing expenditure on other essential investments in areas such as rural infrastructure, irrigation, research and development and extension services. Its low cost-effectiveness is also due to it reaching relatively wealthier farmers that would have purchased inputs anyway (Xu et al., 2009a) and, until the electronic Farmer Input Support Programme (e-FISP) emerged, there was heavy involvement of the government in the procurement and distribution of inputs.

iv. Increasing household food security and incomes

Ultimately, the FISP aims to increase household food security and incomes (and given its intended target beneficiaries, thereby reduce poverty). Clearly maize production has increased substantially throughout the period of FISP’s operation, though this has been mainly through area expansion rather than increases in yields (MAL/CSO Crop Forecast Surveys, 2006/2007 - 2013/2014). It has also come at great cost despite firm evidence demonstrating that the FISP does not ultimately lead to statistically significant reductions in poverty incidence (Mason and Tembo, 2015).

Specifically in terms of household food security, the FISP’s performance has again been found wanting, partly as a result of the poor targeting, which has limited its ability to make meaningful improvements in the high levels of food insecurity in the country. A further failing of the FISP in relation to food security and incomes is that, although beneficiaries were supposed to graduate from the programme every two years, this has not happened. Indeed, despite the substantial investments in the FISP, poverty rates have remained stubbornly high, with 77 percent of the rural population under the poverty line at the latest count (CSO, 2015b).

The numerous failings of the FISP have been long recognized, even within the Ministry of Agriculture itself. In November 2016, the Minister of Agriculture, Honourable Dora Siliya, acknowledged in a speech to Parliament that most beneficiaries had failed to graduate and
continue to return to the programme year after year, despite the government buying the maize (through the FRA) at a higher price (Lusaka Times, 2016). In the same speech, she also highlighted the continued problems of corruption and in July 2017, noted that an estimated 25,000 farmers had been removed from the FISP beneficiary list over the previous two seasons due to cards not being collected. In February 2017, the Minister then indicated that the Government would in fact be seeking to phase out the traditional FISP during the 2017/2018 season, and instead concentrate on the e-voucher system (Lusaka Times, 2017).

2.2.2 Evidence on the E-voucher Fertilizer Input Supply Programme

Starting as a pilot in 2015/2016, the e-voucher has so far had a short life compared to the traditional FISP. Nevertheless, despite experiencing the kinds of challenges you would expect from a new initiative, the evidence emerging suggests that, overall, the e-FISP will allow for a substantial improvement across a number of areas such as:

- **Reduced implementation costs** - compared to the traditional FISP, about 14.5 percent (ZMW 71,756,245) of the implementation costs were saved under the e-voucher system in the 13 pilot districts from 2015/2016 season. After including savings from undistributed and unloaded cards, total savings increase to ZMW 135,831,199 (27.4 percent of the implementation costs).

- **Timely access to inputs for those who received cards on time** – aside from those farmers who had not received their e-cards on time, all others reported having access to their inputs by December 2015. This compares to around 21 percent who had received inputs by December in the 2014/2015 agricultural season under the traditional FISP (Kuteya et al. (2016)). Overtime, once farmers have their e-cards and as lessons are learnt, administrative delays should reduce meaning even more receive their inputs in a timely manner.

- **Stimulation of diversification** – while 85 percent of households interviewed reported using their subsidy for fertilizer and maize seed, the e-FISP allowed beneficiaries to purchase other inputs depending on their preferences and needs. This will support greater diversification of agriculture and avoid over dependence upon maize cropping.

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1 Key points based on a recent evaluation of the e-FISP by Kuteya et al. (2016).
• **Crowding-in of private sector** – around 230 new agro-dealers came on board in 2015/2016 due to the e-voucher, with subsidised purchases stimulating local supplier markets, rising to 422 in 2016/2017 (Kuteya and Chapoto, 2017)

Along with the crowding-in of the private sector, evidence from the pilot already shows that the e-FISP has created a number of new agro-dealer jobs (Machina et al., 2017), and that over time it will increase the number of rural jobs in Zambia, both within the retail outlets themselves but also upstream (wholesalers, intermediaries and distributors), and potentially downstream (those arranging transport for farmers). While this will initially come at the cost of some jobs within the existing FISP delivery infrastructure, it comes with a reduction in the overall cost of the FISP and has greater potential to lead to a net increase in employment over time, as more retailers emerge, competing to bring a wider range of inputs closer to individual farmers.

There is still of course more to do to improve how the e-FISP works, with the following having been identified as some of the early teething problems by Kuteya et al. (2016):

- Deliberate attempts by some Ministry of Agriculture (MoA) staff in Central province to derail the implementation of the pilot;
- Charging of official redemption fees by agro-dealers (as a commission) meant that farmers could not use the full value of the e-card; and
- A lack of understanding of how the e-FISP works, e.g. with reports of farmers surrendering their non-activated cards to agro-dealers in advance to access inputs which may have led to agro-dealers redeeming their cards in their place.

### 2.2.3 Evidence on the Food Reserve Agency

As for the FRA, again, numerous studies have highlighted its various failings and considerable negative impacts on poor and vulnerable households, as well as the agricultural sector and broader economy (e.g. Kuteya and Jayne, 2012; Kuteya and Sitko, 2014; Chilundika and Mulungu, 2016). The wide-ranging problems have also been recognized by MoA, with the Minister of Agriculture, Honourable Dora Siliya, setting out in November 2016 a number of policy pronouncements (NAZ, 2017). Before summarising these proposed changes, we briefly look at what the evidence says in terms of achievement of the FRA’s formal objectives.
In terms of attaining its main objective (to secure national food reserves and taking wealth to rural Zambia), the evidence here is mixed. While national food reserves have been secured through the purchase of maize grain, the FRA has failed in most years to stick to the statutory strategic reserve by often buying well above the prescribed target. In the 2013/2014 marketing season, the Agency bought almost double the 500,000 MT target (Chapoto et al., 2015). As a result, this has undermined rather than facilitated the private sector participation in the maize market, which is contrary to the FRA’s legally enshrined purpose and created a substantial Government budget deficit, with knock-on effects throughout the rest of the economy. It has been noted, for example, that: private traders have been forced out of the market; millers have largely stopped participating in the private sector market; informal millers have been pushed out; and the milling sector has become concentrated, leading to the paradox that, despite four consecutive years of surplus and bumper maize harvests, Zambia has experienced skyrocketing prices and maize meal shortages (Chilundika and Mulungu, 2016).

Regarding the issue of taking wealth to rural Zambia, this needs to be assessed in terms of who has benefitted and how. Here, the evidence suggests that the FRA buys from mostly larger and better off farmers and that the maintenance of floor prices for maize has not benefitted the majority of the rural poor who are unable to produce a surplus, but in fact harmed because they are net maize buyers. For example, in 2014, just 5.5 percent of farmers were responsible for supplying 50 percent of all maize sold among smallholder farmers to FRA; a trend also seen in previous seasons (Chapoto et al., 2015; Tembo et al., 2010; Nkonde et al., 2011). These farmers tend to be relatively well off with more land and non-land assets compared to the other smallholder farmers (Kuteya et al., 2011; Nkonde et al., 2011).

In 2014, only 54.5 percent of maize producers indicated they would sell maize, meaning that over 50 percent of the 1,470,999 smallholder farmers (maize and non-maize farmers) did not benefit from the above market price set by FRA (Chapoto et al., 2015). This has an impact on a large proportion of rural households who are net buyers of maize (about 39 percent) and the low income urban consumers through high maize meal prices. As such, the FRA is actually failing in terms of ensuring food security for the poorest and most vulnerable populations, partly through its impact on maize prices, which are high by Eastern and Southern Africa standards.
In addition, long delays in payments to farmers who do sell to the FRA are also widely reported, clearly undermines the wealth creation aspirations of the FRA. In 2014, despite the FRA purchasing maize from farmers between July and October, not even 30 percent of farmers had been paid by the end of the year (Chapoto et al., 2015).

The Minister of Agriculture responded to these ongoing concerns about the FRA with various policy measures for the current marketing season. First, FRA stuck to its strategic reserve target of 500,000 MT. Second, the FRA buying price broadly reflected the prevailing market price offered by the private sector, and was significantly less than that offered in previous seasons, reflecting depressed prices across the region coming on the back of a string of bumper harvests (Chisanga et. al., 2017). The buying price offered by FRA, in July 2017, of ZMW 60 per 50 Kg (a drop from the ZMW 85 per 50 Kg offered in the previous season), provoked backlash from the Zambia National Farmers Union and other stakeholders. However, the GRZ resisted pressure to increase the FRA price, which signalled an intention that FRA would not over-reach itself in the maize market.

However, such positive developments are now overshadowed by the publication of a draft Bill proposing an expanded marketing role for FRA, including for export. An expanded role would place a highly unsustainable financial burden on the exchequer, which would crowd out revenue that could be invested in boosting agricultural productivity and job creation. The draft Bill therefore requires amendments so that FRA’s role is limited to the provision of a strategic grain reserve and as a buyer of last resort in remote areas.

It was recently reported through a Ministerial statement that the FRA had started to reduce the number of satellite depots being operated, from around 1,223 to 760 (a reduction of one third), with it set to concentrate operations in ‘outlying areas’, where it has purchased 60 percent of the maize crop in the past two seasons. Operation of these 760 depots is estimated to cost ZMW 50.9 million. Depots were to be concentrated in Eastern, Luapula, Muchinga, Northern, North Western and Western provinces due to the minimal private sector participation resulting from limited accessibility (NAZ, 2017). However, the 2018 budget now indicates a reversal of this reform through a proposed move to once again increase storage infrastructure.
This brief assessment of the FISP and FRA against their own objectives highlights a number of wide-ranging problems. Although these have been known for many years, apart from the recent welcome innovation around the FISP e-voucher and proposals on the FRA, little has been achieved in the way of substantive reform. Despite an improved delivery mechanism, the e-FISP continues to subsidise a large number of households (a target of 1 million in 2017). As shown later in this paper, many of these are in a position to (and do) purchase fertilizer at commercial prices. Similarly, despite the pronouncements on the FRA, it continues to exceed its core function of providing an appropriate strategic grain reserve with negative impacts on poor households, the private sector and at great cost to the treasury.

These continued weaknesses does not mean that there is not an economic case for agricultural input subsidies in Zambia of some form, or a role for some form of strategic grain reserve. Indeed, when we consider the case for these programmes further below in section 4, it is found that they still have a role to play. However, for the FISP and FRA to remain economically justifiable, there is an urgent need for further specific reforms, as set out in that same section. Before looking at those reforms however, we first take a look at some lessons from price subsidy reform globally, including Zambia.
3. Lessons from price subsidy reform

This section highlights a number of important lessons learnt through looking at experiences of price subsidy reform internationally, including Zambia. It highlights the crucial importance of having: (a) a window of opportunity; (b) understanding who the winners and losers of a reform are; (c) the importance of clear communication; and (d) the issue of timing. The section also discusses the example of reforms that have taken place around Nigeria’s input subsidy regime, from a state-led approach to a more market-friendly one, through the use of e-vouchers.

3.1 Four key lessons from international experience of price subsidy reform

Once instituted, price subsidies such as agricultural input subsidies and fuel subsidies become politically difficult to remove. This is partly due to subsidy recipients expecting the subsidies to be there and including them as part of their decision-making process, over time shifting their behaviour around the idea that the subsidy will continue to be there. In addition, the implementation of price subsidies results in a number of groups benefitting in addition to the main stated beneficiaries, which then become special interest groups that will generally be opposed to changes in the subsidy regime if it would reduce the increased welfare they have come to enjoy.

As noted by Baltzer and Hansen (2012: 7), ‘universal [agricultural] subsidy programmes were maintained for many years in spite of strong indications of their inefficiencies and unsustainable drain on fiscal resources. It took heavy pressure from outside donors and the threat of imminent fiscal collapse to push through liberalising reforms.’ Even the new wave of input subsidy programmes that started in the 2000s, including in Zambia, have shown evidence of being used as a form of political patronage (e.g. Mason, Jayne and van de Walle, 2013; Banful, 2010; Chisinga and Poulton, 2014).

Nevertheless, there is a wide range of experience across the globe of countries engaging in the reduction and reform of price subsidies (e.g. Gupta et al., 2000; Merrill et al., 2015). In 2014, almost 30 countries made some effort to remove fossil-fuel consumer subsidies, in many cases
allowing for increased public spending on development priorities such as health, education and infrastructure (Merrill et al., 2015). Such subsidies have parallels with Zambia’s FISP in that they have typically been found to be socially regressive as they are costly and the benefits of the subsidy are largely captured by better off households. The examples of reform show that it is still possible to reform subsidies that are benefitting less poor segments of society, and influential special interest groups. Four common lessons emerge from the experience of price subsidy reforms as highlighted below.

Firstly, a number of authors highlight the importance of there being a ‘window of opportunity’ for creating a conducive environment for reform (e.g. Cabral et al., 2006; Gerasimchuk, 2015). Gerasimchuk (2015) emphasises the importance of four specific things that can help: the right context (e.g. when a country is facing a fiscal crisis or when a new government gains power which has the mandate to carry out reform); there being a broad base of champions who support reforms; the range and strength of benefits and co-benefits arising from reform; and experience and ability to mitigate impacts of the reform(s).

The second critical aspect to price subsidy reforms is the importance of recognising who will be the winners and losers arising from the reform process. In order for reforms to remain politically viable and socially responsible, short-term mitigation measures may be required to manage impacts of reform. Measures may be used for social reasons (e.g. cushioning the negative impacts on the poor), or for political and administrative ones (e.g. managing opposition from powerful interest groups) (Beaton et al., 2013). Mitigation measures should be distinguished from the issue of how savings from the subsidy reform are used over the medium to longer-term, though it may be that some of the short-term mitigation measures end up forming part of the longer-term policy change.

A third important aspect to successful reform is how the reforms are packaged and communicated to the public and various audiences. If the reform process is communicated appropriately with a convincing message then there may be less need for short-term mitigation measures. Zambia provides an interesting case study here, where the newly elected government in 1991 sought to deal with the economic crisis by eliminating generalised subsidies on maize meal over a single year without an explanation. Partly due to the way this was handled, civil unrest ensued along with the
reversal of maize market liberalisation (Gupta et al. 2000; Kherallah et al., 2000). However, when
the subsequent government then went to great lengths to explain its reform programme to the
public (emphasising the public’s willingness to pay high black market prices for maize during
shortages), there was virtually no public protest when it then freed the price of maize, despite it
leading to a quadrupling in the price (Graham, 1994).

The fourth critical element to successful reforms is the issue of timing and pace, with countries
generally tending to take either a more gradual or a ‘big bang’ approach. Drawing on reform of
price subsidies in 28 countries, Gupta et al. (2000) highlight that rapid reform requires a favourable
political and economic environment, in the absence of which reform should be implemented
gradually. This is echoed by Beaton et al. (2013), who note from country experiences of fossil fuel
subsidy reform that ‘a fast move to market-based pricing is more likely to succeed if it is part of
much bigger political and economic transformation’. However, Gupta et al. (2000) note that
gradual approaches are not without their drawbacks, including the longer time to reap economic
rewards and, importantly, the danger of the reform process stalling or being reversed.

3.2 Lessons from Nigeria’s agricultural input subsidies reforms

Nigeria provides one example of where bold reforms have begun to bear fruit as a result of shifting
towards a more private sector friendly input subsidy approach utilising electronic payment
methods.

Since the 1970s, Nigeria had maintained a policy of large-scale fertilizer subsidies to address low
fertilizer use among farmers, with fertilizer supply ending up being the single largest expenditure
line in the federal capital account (Grow Africa, n.d). The policy continued despite its
ineffectiveness, including low use of fertilizer by farmers (just 11 percent of subsidised fertilizer
estimated to be going to farmers from 1977 to 2010) (ActionAid, n.d) due to widespread losses
through diversion of supply (estimated losses of US$ 162.5 million annually), and frequent late
delivery.

Despite entrenched interests, the situation started to change in 2012 with the newly appointed
Minister of Agriculture and Rural Development at the time, Akinwumi Ayodeji Adesina, and strong
backing from the then President Goodluck Jonathan. In 2012, with the Growth Enhancement
Support (GES) programme (Grow Africa, n.d), it aimed to depoliticise the agricultural input sector and move to a system that empowered the private sector to deliver subsidised farm inputs directly to poorer farmers (farming less than 3 Ha) using an electronic voucher system (e-wallet) in which recipients are uniquely identified by a multipurpose national identity card. By its second year, as many as five million farmers were using the e-wallet system to receive subsidised fertilizer and improved seeds from 2,500 registered agro-dealers.

The GES programme has not been without its teething problems, including lack of awareness by farmers, registration problems, challenges in using the mobile phone network and some continued reports of corruption. Nevertheless, such issues are to be expected at the beginning of such a new approach and the GES has been widely credited with having significantly reduced the cost by reducing the former widespread diversion and being accompanied with significantly increasing banking sector confidence in the agricultural sector (Grow Africa, n.d; Adebo, 2014).

One of the critical lessons from the experience of the GES is that it depended upon visionary leadership from the President and the Minister of Agriculture, in spite of entrenched interests and initial teething problems, the GES was adapted to ensure it delivered greater benefit for the Nigerian people.
4. PROPOSED REFORMS TO THE FISP AND FRA

In this section, we set out the specific technical proposals for reform of the FISP and FRA. Below we propose a series of economically and socially smart reforms to FRA and FISP, which are designed to be implemented gradually and built on recent changes to both programmes. Under our proposals, FISP and FRA would continue to operate on a more economically justifiable footing while achieving annual fiscal savings in the region of ZMW 1.263 billion (approximately US$ 133.9 million).

4.1 Reform proposals for the FISP

Having considered what some of the key principles are for successful reform of price subsidies, this section now sets out the specific technical proposals for reform of the FISP and FRA. After briefly revisiting the case for original justifications for the FISP and FRA, the specific proposed reforms are presented along with justifications for each based on: the evidence and discussion in this paper; consideration of short- to medium-term impacts; and estimated fiscal savings.

4.1.1 Are FISP and FRA still relevant?

Here we look at the extent to which the problems originally identified and intended to be addressed by the FISP and FRA remain critical obstacles to the achievement of poverty reduction and food security in Zambia. To help do that, Table 2 provides a reminder of the overall objectives of the FISP and FRA, along with the problems they are intended to address.

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Table 2: FISP and FRA overall objectives and problems intended to address

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Problems it is intended to address</th>
<th>Overall objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>FISP</td>
<td>Low access to/use of inputs (fertilizer and seed) due to: High cost of agricultural inputs (or the high input-output price ratio); and An uncompetitive and 'constrained' private sector input industry</td>
<td>Improve supply and delivery of agricultural inputs to small-scale farmers through sustainable private sector participation at affordable cost, to increase household food security and incomes</td>
</tr>
<tr>
<td>FRA</td>
<td>Risk of insufficient national food reserves and lack of affordable staple foods throughout the country. Low or volatile output prices for key staple crops grown by farmers.</td>
<td>To secure national food reserves and take wealth to rural Zambia.</td>
</tr>
</tbody>
</table>

**4.1.2 Is fertilizer still too costly?**

Looking at the FISP first, we briefly consider two questions: (i) is fertilizer still too costly and (ii) is the private sector still too constrained to create broad physical access to inputs? We consider these in turn.

The fundamental economic reason for subsidising fertilizer through the FISP was that it was seen as prohibitively expensive at commercial prices, leading to a sub-optimal level of use. However, in order for the FISP to remain a prudent use of public funds, once farmers show themselves to be able and willing to purchase significant volumes of inputs at commercial prices, subsidies should then be re-directed towards other pressing areas of spending.

In practice, the market price of fertilizer does remain expensive for many households to the extent that, without a subsidy, the poorest would not be able or willing to purchase fertilizer, or anywhere near a sufficient amount for the size of the land they wish to cultivate. The average market price for a 50 Kg bag of fertilizer in 2015 according to the Rural Agricultural Livelihoods Survey (RALS) was ZMW 213, which is just over US$ 22 in 2017 prices. A common recommendation in Zambia has been that farmers should use four bags of Compound D and four bags of urea fertilizer per hectare of maize, though the optimum amount and type of fertilizer will actually vary quite significantly depending on soil conditions and farming practices (Xu et al., 2009). Moreover, when
faced with multiple competing economic priorities, farmers living near the poverty line will typically choose to apply less than the recommended rate.

To put the cost of eight bags of fertilizer into perspective (ZMW 1,704 in 2015), the extreme poverty line (which is 40 percent of Zambia’s population, currently lives below) is currently ZMW 985 per month. Those living in extreme poverty would therefore have to forego nearly two full months of expenditure in order to be able to afford this amount of fertilizer.

In Table 3, farmers have been grouped using cluster analysis into households sharing very similar characteristics. As can be seen, the groups of farmers that are currently more likely to receive the FISP are actually the somewhat better off farmers that are also purchasing considerable quantities of commercially priced fertilizer. The likelihood of receiving fertilizer through the FISP ranges from as low as 33 percent and 35 percent among ‘poor accessible’ and ‘poor remote’ households respectively, to 57 percent, 58 percent and 68 percent for ‘market participating’, ‘wage earning’ and ‘outgrowing’ households respectively. However, those that are more likely to receive fertilizer through the FISP are also those that are purchasing substantially larger amounts of fertilizer at the full commercial price, ranging from averages of 299Kg, 312Kg and 1,171Kg among the ‘outgrowing’, ‘wage earning’ and ‘market participating’ households respectively. Even when you account for the larger land sizes of such households, they are still purchasing substantially larger amounts at commercial prices (final row of Table 3).

In brief, the argument that FISP needs to continue to be targeted to such large numbers of farming households in Zambia is strongly put into question by the fact that many of the better off households (e.g. within the ‘wage earning’, ‘outgrowing’ or ‘market participating’ groups) appear able to purchase significant amounts of fertilizer at commercial rates. This indicates that a large portion of the FISP is currently providing a wealth transfer to better off households that could purchase fertilizer at commercial prices.

It remains an economic justification for FISP if it is targeting those households that are not able to purchase any, or only very small amounts of fertilizer at the commercial price (e.g. some of the ‘poor accessible’ and ‘poor remote’ households). The reason for this is that without a subsidy, these households are less likely to purchase any fertilizer at all. Indeed, as can be seen in Table 3, it is
particularly among such households that low levels of fertilizer are being applied, with less than half applying any fertilizer at all.

Table 3: Demand for commercial fertilizer among different farmers groups

<table>
<thead>
<tr>
<th>Livelihood Profile</th>
<th>Poor Accessible</th>
<th>Poor Remote</th>
<th>Wage Earning</th>
<th>Outgrowing</th>
<th>Market Participating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of households</td>
<td>772,092</td>
<td>169,626</td>
<td>43,536</td>
<td>351,317</td>
<td>8,374</td>
</tr>
<tr>
<td>Land holding size (Ha)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>.01</td>
<td>.13</td>
<td>.01</td>
<td>.01</td>
<td>.38</td>
</tr>
<tr>
<td>Mean</td>
<td>3.22</td>
<td>5.29</td>
<td>3.99</td>
<td>5.96</td>
<td>12.30</td>
</tr>
<tr>
<td>Maximum</td>
<td>199.75</td>
<td>151.63</td>
<td>81.25</td>
<td>199.50</td>
<td>104.75</td>
</tr>
<tr>
<td>Cultivated land (Ha)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>.01</td>
<td>.13</td>
<td>.01</td>
<td>.25</td>
<td>.38</td>
</tr>
<tr>
<td>Mean</td>
<td>1.54</td>
<td>2.29</td>
<td>2.04</td>
<td>3.36</td>
<td>7.93</td>
</tr>
<tr>
<td>Maximum</td>
<td>10.00</td>
<td>24.50</td>
<td>24.55</td>
<td>25.50</td>
<td>45.25</td>
</tr>
<tr>
<td>% of households growing maize</td>
<td>84</td>
<td>84</td>
<td>95</td>
<td>99</td>
<td>100</td>
</tr>
<tr>
<td>% of households using fertilizer in Maize field</td>
<td>48</td>
<td>49</td>
<td>88</td>
<td>84</td>
<td>87</td>
</tr>
<tr>
<td>% of households receiving fertilizer from FISP</td>
<td>33</td>
<td>35</td>
<td>58</td>
<td>68</td>
<td>57</td>
</tr>
<tr>
<td>Fertilizer used per ha cultivated for maize (fertilizer users only)</td>
<td>304</td>
<td>314</td>
<td>360</td>
<td>292</td>
<td>287</td>
</tr>
<tr>
<td>Average daily income (per capita) (ZMW)</td>
<td>5</td>
<td>6</td>
<td>34</td>
<td>10</td>
<td>70</td>
</tr>
<tr>
<td>Average annual income (per capita) (ZMW)</td>
<td>1,882</td>
<td>2,157</td>
<td>12,544</td>
<td>3,561</td>
<td>25,719</td>
</tr>
<tr>
<td>Amount of fertilizer purchased at commercial price (tons)</td>
<td>33,247</td>
<td>12,775</td>
<td>13,565</td>
<td>105,148</td>
<td>9,804</td>
</tr>
<tr>
<td>Average amount of fertilizer purchased at commercial price (kg)</td>
<td>43</td>
<td>75</td>
<td>312</td>
<td>299</td>
<td>1,171</td>
</tr>
<tr>
<td>Average amount of fertilizer purchased at commercial price as share of mean cultivated land size (kg)</td>
<td>28</td>
<td>33</td>
<td>153</td>
<td>89</td>
<td>148</td>
</tr>
</tbody>
</table>

Source: Subakanya et al. (2017)
While together the ‘poor accessible’ and ‘poor remote’ households represent around 941,718 farm households, the FISP will not be an appropriate policy measure for all of them. As was already mentioned, nationally, some 41 percent of households live in extreme poverty, with the large majority from rural areas, which will include many of the 941,718 farm households. As discussed more in the following section, for such households, it is likely that other social protection measures will (at least initially) be more appropriate for them.

Firstly, if households are unable to afford the ZMW 400 top-up for the e-FISP, then they may not be able to access it, opening up the way for wealthier farmers or unscrupulous individuals to instead benefit (e.g. through paying poorer farmers’ cash to access their subsidised fertilizer). If they are able to come together with other households to pay the top-up, then experience suggests that the subsidised fertilizer will subsequently be shared, resulting in an ineffective yield response, thereby undermining the policy’s objectives (e.g. Harman, 2016). Secondly, some households such as the very elderly or disabled may well be better served through receiving regular income support (e.g. through the government’s Social Cash Transfer (SCT) programme). While such households may well include those that hire in labour to farm their land, given their high level of dependence, it is arguably more of a priority to receive a regular form of support to cover essential basic needs, while allowing the flexibility of using a portion of their income to purchase other productive inputs for additional income generation.

In brief, while fertilizer does indeed remain very costly for some, the evidence suggests that many better off households are already purchasing commercial fertilizer, which requires us to look at re-focusing and scaling back the FISP to make more effective use of public funds.

4.1.3 Is the private sector still too constrained to create broad physical access to inputs?

A second issue the FISP was originally intended to address was the weak and constrained private sector in the agricultural input industry. However, by taking on the role of purchasing and distributing fertilizer, evidence suggests that the FISP has actually held back the private sector (e.g. Xu et al., 2009) limiting its development and benefits that would arise from increased competition.
While some areas of Zambia are served better than others by private sector input retailers and agro-dealers, unless such actors are given a chance to distribute inputs (like they are through the e-FISP), the continued involvement of the state in the centralised delivery of fertilizer and other inputs will always be a limiting factor on how far the private sector can grow. In this sense, for the FISP to support the growth of the private sector, it will need to reform the way it distributes inputs to beneficiary households.

Looking now at the FRA, we ask: (i) are insufficient grain reserves still a problem, (ii) are prices for farmers still too low or volatile, and (iii) is there a need for the FRA to act as a marketing board?

4.1.4 Are insufficient grain reserves still a problem?

Insufficient grain reserves do not represent a problem in Zambia in part due to the very high levels of grain purchased by the FRA but also due to the new options available for dealing with risks relating to food production and price shocks, such as purchasing grain options markets, which do not require the physical holding of grain.

The target levels of strategic maize reserves in Zambia have increased substantially over time, from 180,000 to 225,000 MT in the late 1990s, to a target of 300,000 MT, and now 500,000 MT as part of a ‘negotiated settlement’. The earlier targets were calculated by the MoA and Food and Agriculture Organization of the United Nationa (FAO) as being the amount of maize required to cover three months of food consumption, though the figures include grain required also for the private sector. In the proposals below we calculate what levels of reserves would be needed to meet an infrequent maize grain supply shock that requires stocks for human consumption over a three month period.

While there may still be a case for a strategic grain reserve given the country’s heavy dependence upon rain-fed agriculture and its strong preference and demand for maize, the level of the strategic reserve needs to be reconsidered based on the country’s current need, as the main problem with the FRA at present is that it has frequently purchased too much grain with wide ranging negative impacts mentioned earlier (i.e. on private sector involvement, efficient market functioning, maize
prices and resulting losses through substantial post-harvest losses all to the cost of the treasury and taxpayer).

**4.1.5 Are prices for farmers still too low or volatile, and is there a need for the FRA to act as a marketing board?**

As noted earlier, through the movement of the FRA into the position as the predominant maize marketing actor, it has impacted upon the efficient operation of maize markets, with impacts on the maize market that have seen a group of better off net producing farmers (which represent a small proportion of all smallholder farmers in the country) disproportionately benefit from FRA purchases, along with selected maize millers. At the same time, this has translated into higher rather than lower prices for consumers and volatility in pricing through the FRA’s heavy engagement in the market. In brief, the FRA has increased prices for a select group of farmers and maize millers, while at the same time introducing higher prices for consumers and volatility in grain markets due to uncertainty and the extensive role of the state within the maize market.

At this juncture, it is important to highlight how low maize price volatility has been achieved through alternative models in the region, such as in Ghana and Tanzania for example, where national strategic grain reserves account for a much smaller proportion of total maize purchases (Chilundika and Mulungu, 2016).

In some areas of the country where market activity remains low, this could signal an argument for the FRA stepping in to purchase maize and potentially other crops from farmers. However, what is critical to remember is that, so long as government takes the place of private sector actors, this will lessen the incentives for new private sector actors to move in. Other forms of market facilitation, such as working with the private sector to appreciate unexploited opportunities, or investing in infrastructure to lower the costs of operating in remote areas should therefore be explored.
Table 4: Summary of reform proposals for the FISP

<table>
<thead>
<tr>
<th>Reform proposal</th>
<th>Rationale and justifications</th>
</tr>
</thead>
</table>
| 1. Shift all beneficiaries from the traditional FISP to the e-FISP mechanism (as per the latest government proposals) | - Government involvement in procurement and distribution in traditional FISP has undermined one of the core objectives of the FISP to strengthen private sector participation in input markets. However, this will be essential for bringing down the cost of agricultural inputs over the longer term.  
- The e-FISP has already been found to substantially increase private sector involvement in input distribution in areas where it is operating (from 230 agro-dealers in 2015/16 to 422 in 2016/17) (Kuteya and Chapoto, 2017)  
- The e-FISP allows for farmers to choose inputs that are most appropriate for them and to access them in a timely manner through local retailers rather than waiting for central distribution  
- The e-FISP offers the potential for considerable cost reductions in administration  
- The more technocratic approach to targeting involved in the e-FISP is helping reduce scope for relatively wealthier farmers to benefit, who also purchase commercial fertilizer  
- Reducing the government involvement substantially shifts the risks and costs of any losses away from public funds |
| 2. Reduce the numbers of farmers targeted with the e-FISP from the proposed 1,000,000 (for 2017/18 season) to 750,000 (for 2018/19) and then 500,000 (for 2019/20) with a cap on total annual FISP expenditure of no more than US$100 million.³ | - The FISP currently disproportionately benefits better off farmers who have been found to also be purchasing significant amounts of fertilizer at commercial prices.  
- For such households the FISP effectively represents a wealth transfer rather than a necessary policy to address poverty and household food insecurity  
- The actual number of farmers for which it is economically justifiable to target with the e-FISP is considerably below the current target of 1,000,000 and much nearer to 500,000 (for calculations see Tables 5 and 6)  
- The substantial fiscal cost of the FISP continues to crowd-out other far more cost-effective investments which have proven to do a better job at addressing poverty and stimulating productive rural investments among poor rural households |
| 3. Select farmers who cultivate 5 Ha or less and are not so poor that the FISP top-up fee costs 80 percent or more of their monthly income or not so wealthy that their monthly income is above ZMW 1,400. | It was always the intention that farmers should graduate from the FISP but this has not been monitored or implemented in practice.  
- Laying serious emphasis on a time-bound condition could help to re-orientate the e-FISP away from an ongoing wealth transfer towards a serious policy measure that is geared towards graduation into stronger and more resilient livelihoods |
| 4. Provide sufficient time-bound support such that after two to three years, beneficiaries could reasonably be expected to graduate away from the need for further on-going government support, allowing for other households to benefit. | ³ Implementation of an expenditure cap would need to allow for inflation-related price increases over time. |

Source: Summary by Authors (2017)
4.2 Rationale for re-focusing targeting of the FISP to 500,000 farming households

The underlying economic rationale for a fertilizer subsidy is that certain market failures exist which mean farmers do not purchase fertilizer commercially and so apply low levels of fertilizer. In the case of the FISP, however, household survey data (shown in Table 5) reveals how 132,851 households that have a monthly income above ZMW 1,400 are benefitting from the FISP, despite the fact that nearly 60 percent of them also purchase an average of 413 Kg of fertilizer at commercial prices. Targeting households that are able to afford such large amounts of commercial fertilizer is not in line with the above economic justification for the fertilizer subsidy.

A significant number of poorer households receiving the FISP do also purchase additional fertilizer at commercial prices: 56 percent of those in the bracket ZMW 1120 – 1400; 43 percent of those in the income bracket of ZMW 900 – 1119; and 46 percent of those in the monthly income bracket of ZMW 500 - 899. However, the average volumes that are purchased by these households are substantially lower than the average volume for those in the wealthiest category. Rather than a mean of 413 Kg, the next poorest categories purchase an average of 196 Kg (ZMW 1120 – 1400), 140 Kg (ZMW 900 – 1119) and 114 Kg (ZMW 500 – 899).

The same data also reveal that there were 58,670 households benefitting from the FISP that were cultivating more than 5 Ha of land, despite FISP targeting rules that beneficiaries should not be cultivating more than 5 Ha of land.

On the other side, of the 1.5 million farming households, RALS data show us that, of those cultivating up to 5 Ha, 713,166 households have a monthly income of under ZMW 500, which would mean that the FISP top-up of ZMW 400 represents a considerable 80 percent of their total monthly income. For such households, there are very good reasons for reaching them with other forms of government support. Firstly, the high cost of the top-up can result in households either not being able to access FISP, or else borrowing or joining up with other households to access it (Harman, 2015). Their precarious livelihood position can also make them more liable to sell a portion of their subsidised fertilizer, all of the above leading to a much greater risk of diluting the final amount of fertilizer being applied, which undermines the FISP’s primary purpose of increasing maize yields among targeted farmers. It is for this reason that it would make more sense to reach such
households with the EFSP (where no co-payment is required up-front) or, if they are not able to farm, other forms of support such as a regular cash transfer to support consumption smoothing.

When we calculate the households that remain after removing those that cultivate above 5 Ha, those for whom the FISP top-up is more than 80 percent of their monthly income, and those who have a monthly income of above ZMW 1,400 (and focus just on the 87 percent of households which farm maize), we are left with a figure of 395,591 farmers, which is substantially below the 2018 target of 1,000,000 farming households (Table 6).

### 4.2.1 Anticipated short- to medium-term impacts of FISP reforms

While it is not within the scope of the present paper to carry out a full-scale simulation of the impacts of the above-proposed reforms, there are a number of very good reasons to believe that, far from leading to any major negative adverse impacts, they would in fact lead over the medium-term to improvements in agricultural production and poverty reduction. Taking each of the proposals in turn:

The evidence cited earlier suggests that the ‘shifting of all beneficiaries from the traditional FISP to the e-FISP’ will lead to: improvements in timely access to fertilizer and other inputs (critical for agricultural yields); stimulation of the private agro-input industry (which will over time allow for increased competition and reduced prices); greater agricultural diversification (reducing dependence upon maize); and greater cost-efficiency through reductions in implementation costs, as well as removing public liabilities for the substantial volumes of government subsidised fertilizer that has ‘leaked’ throughout the supply chain (Mason and Jayne, 2013).

While at first glance the proposed stepwise ‘reduction in the total number of farmers targeted by the FISP’ may be thought to have a negative impact on agricultural production, a closer look at the details suggests that this may not actually be the case. As has already been shown, a significant majority of farmers benefitting from the FISP already purchase commercial fertilizer, which raises the question over how much the FISP is simply substituting for commercially priced fertilizer that would be purchased anyway. Even within the trial of the e-FISP, it was found that wealthier households had better access to the FISP due to the way in which targeting was still organised
through cooperatives, with wealthier households better able to afford the e-card required to receive
the subsidy, and that poorer households are likely to continue to fail to benefit, especially given
that cooperative membership and share fees can be too high for some of the poorer farmers
(Kuteya et al., 2016). Furthermore, the FISP has for some time sought to ‘empower’ traditional
leadership through targeting chiefs as beneficiaries of the FISP,\(^4\) despite the fact that chiefs are
generally not those in need of a government subsidy in order to purchase fertilizer.

By contrast, if the targeting of the FISP was improved along the lines of proposal three, which aims
to target farmers that are not currently able to purchase any significant amount of commercially
priced fertilizer\(^5\), but who can afford to pay the top-up and are able to make effective use of the
fertilizer, then the FISP would in theory lead to a considerably higher increase in the actual overall
levels of fertilizer being applied in Zambia; in turn supporting higher levels of agricultural
production. Therefore, far from having a negative impact on agricultural production, there is a
strong reason to believe that the reduction and re-direction of FISP (proposals two and three)
would in fact lead to greater agricultural production and, if being targeted at poorer households,
have a much greater chance of achieving poverty reduction.

\(^4\) Section 7.1 of the 2014/2015 FISP Implementation manual stipulates that chiefs should be included as
beneficiaries of the FISP.

\(^5\) Remembering from Table 3 that around half of all ‘poor accessible’ and ‘poor remote’ farmers do not currently
use any fertilizer at all.
Table 5: Information on farm households, land size and fertilizer access

<table>
<thead>
<tr>
<th>Landholding size</th>
<th>Overall</th>
<th>Household income (ZMW)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;2 Ha</td>
<td>0-499</td>
</tr>
<tr>
<td></td>
<td>702,301</td>
<td>450,847</td>
</tr>
<tr>
<td></td>
<td>481,358</td>
<td>202,468</td>
</tr>
<tr>
<td></td>
<td>214,471</td>
<td>58,639</td>
</tr>
<tr>
<td></td>
<td>114,248</td>
<td>27,514</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,512,377</td>
<td>739,468</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cultivated land</th>
<th>Overall</th>
<th>Household income (ZMW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1,512,377</td>
<td>739,468</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Households that received FISP fertilizer (N)</th>
<th>Overall</th>
<th>Household income (ZMW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% share across wealth groups</td>
<td>100</td>
<td>36.8</td>
</tr>
<tr>
<td>% share within each group</td>
<td>35.7</td>
<td>26.8</td>
</tr>
<tr>
<td>Kgs of FISP fertilizer used per Ha</td>
<td>324.76</td>
<td>314.43</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Households buying commercial fertilizer (N)</th>
<th>Overall</th>
<th>Household income (ZMW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% share across wealth groups</td>
<td>100</td>
<td>23.1</td>
</tr>
<tr>
<td>% share within each group</td>
<td>42.4</td>
<td>26.6</td>
</tr>
<tr>
<td>Kgs of commercially purchased fertilizer used</td>
<td>169.20</td>
<td>41.29</td>
</tr>
</tbody>
</table>

Source: Authors calculations using RALS (2015)
Table 6: Calculations on number of households to be targeted by the FISP

<table>
<thead>
<tr>
<th></th>
<th>Farming households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total households cultivating up to 5 Ha</td>
<td>1,369,222</td>
</tr>
<tr>
<td>Minus households for whom ZMW 400 FISP top-up is &gt; 80% of monthly income</td>
<td>656,156</td>
</tr>
<tr>
<td>Minus those with monthly hh incomes above ZMW 1400</td>
<td>454,702</td>
</tr>
<tr>
<td>Minus approx. 13% of total households not actively involved in maize farming</td>
<td>395,591</td>
</tr>
</tbody>
</table>

Source: Authors calculations based on data from RALS (2015)

The final proposal – ‘providing sufficient time-bound support through the FISP so that beneficiaries can reasonably graduate away from the need for support after two to three years’ – is again not expected to lead to negative consequences, providing that farmers can access sufficient inputs on time and do not suffer from climate shocks that undermine their production. In fact, the idea is that by communicating to farmers that support from the FISP will be time-bound, it will create incentives for farmers to make best use of their earnings and free up resources over time to allow additional households to benefit.

The critical caveat here is that it must be recognised that although some households will be able to graduate from FISP support, others may not due to no fault of their own (e.g. due to poor rainfall). As such, it will be important to commission a thorough graduation framework so that the FISP moves towards being time-bound support, but farmers are not removed by default in a purely administrative fashion, as this will jeopardise the ability of some to make truly transformational changes in their livelihood positions.

4.2.2 Fiscal savings from FISP reform

The FISP reforms described above would still leave the government providing a substantial number of farmers with FISP subsidy support (approximately one third of farming households). However, by re-orientating the targeting of the FISP to reach those households that would not otherwise be able to purchase any significant commercial fertilizer (but can afford the FISP top-up), it would yield very substantial fiscal savings.

In total, GRZ could stand to gain in the region of ZMW 850,000,000 (US$ 90 million) a year if it restricted the number of FISP beneficiaries to 500,000 farmers, or ZMW 757,000,000 (US$ 80 million) a year with a cap on annual spending of ZMW 943,000,000 (US$ 100 million). Calculations are summarised below in Table 7.
Table 7: Fiscal savings arising from the proposed FISP reforms

<table>
<thead>
<tr>
<th>Option</th>
<th>Per unit cost (ZMW)</th>
<th>FISP beneficiaries</th>
<th>Total (ZMW)</th>
<th>Total (US$)</th>
<th>Annual savings (ZMW)</th>
<th>Annual savings (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned 2017</td>
<td>1,700</td>
<td>1,000,000</td>
<td>1,700,000,000</td>
<td>180,241,694</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Beneficiary cap (Year 1)</td>
<td>1,700</td>
<td>750,000</td>
<td>1,275,000,000</td>
<td>135,181,270</td>
<td>425,000,000</td>
<td>45,060,423</td>
</tr>
<tr>
<td>Beneficiary cap (Year 2)</td>
<td>1,700</td>
<td>500,000</td>
<td>850,000,000</td>
<td>90,120,847</td>
<td>425,000,000</td>
<td>45,060,423</td>
</tr>
<tr>
<td>Beneficiary cap (final savings):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>850,000,000</td>
<td>90,120,847</td>
</tr>
<tr>
<td>Expenditure cap</td>
<td>1,700</td>
<td>554,706</td>
<td>943,000,000</td>
<td>100,000,000</td>
<td>757,000,000</td>
<td>80,241,694</td>
</tr>
</tbody>
</table>

Exchange rate: $1 = 9.43178

Source: Authors Calculations (2017)
### Reform proposals for the FRA

Our proposals for the FRA are set out in Tables 8 and 9 below. As with FISP, these reforms are intended to build on recent changes, and can be implemented gradually.

#### Table 8: Summary of reform proposals for the FRA (1)

<table>
<thead>
<tr>
<th>Reform proposals</th>
<th>Rational and Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reform proposal 1: Scale back the strategic reserve stock level from the current statutory 500,000 MT to 300,000 MT of physically held reserves over a period of two years (to be reviewed on a bi-annual basis in an open transparent way with key stakeholders), with the potential for future grain options to be purchased.</td>
<td>Based on calculations in section 4.3.1 below, the current statutory 500,000 MT is considerably greater than the actual needs for human consumption based on Zambia’s population, demographics and calorie requirements. Zambia is also now much better prepared to deal with supply deficits and to respond in a more timely fashion to anticipated maize deficits (Chapoto et al., 2015). Financing maize purchases through commercial loans has a high opportunity cost, as the purchase of grain paid for through commercial loans limits growth potential of agriculture and other sectors. Calculations by IAPRI (2016a) show that it costs the National treasury approximately US$ 26.7 million over an eight month period to hold 500,000 MT of maize (excluding procurement costs and FRA-related costs). Given the substantial involvement in the market, when maize is offloaded on the market at a reduced or subsidised price, it hurts farmers who produce early maize, grain traders, and millers who cannot access the discounted FRA maize price. Evidence has shown that when there was less government market participation and more predictable policies, it resulted in more private sector participation in the maize market (Nkonde et al., 2011). The overreach of the FRA has led to late payments to farmers becoming the norm, which in turn has significant impacts on livelihoods and local economies.</td>
</tr>
</tbody>
</table>

Source: Authors proposals
Table 9: Summary of reform proposals for the FRA (2)

<table>
<thead>
<tr>
<th>Reform proposals</th>
<th>Rational and Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reform proposal 3: Over time, support a shift towards the government playing less of a role in direct procurement and management, by procuring reserves at the market price via ZAMACE, and with maize stored in certified warehouses.</td>
<td>By procuring maize through the Zambia Commodity Exchange (ZAMACE) rather than farmers, the FRA could reduce the practice of farmers being paid late and also introduce competition into local maize markets.</td>
</tr>
<tr>
<td></td>
<td>The inflated prices created through the FRA practices contributes to farm gate prices of maize in Zambia being 33-71 percent higher than other countries in the region, leading to inflows of maize from neighbouring countries and the effective subsidisation of farmers and traders in neighbouring countries (Chapoto et al., 2015).</td>
</tr>
<tr>
<td></td>
<td>Procurement through the ZAMACE would also lower the time during which the government would need to store the maize, lowering losses due to waste.</td>
</tr>
<tr>
<td></td>
<td>Storage in certified warehouses would save significant money over the medium term. The estimated annual cost of grain losses due to poor storage (assuming 10 percent storage losses) has been estimated at ZMW 85,000,000 (approximately $US 9.17 million) (IAPRI, 2016a). In the 2012/13 marketing season when FRA bought more than the planned quantities, storage losses were estimated to be over 30 percent (Sitko and Kuteya, 2013).</td>
</tr>
</tbody>
</table>

Source: Authors proposals

4.3.1 Rationale for reducing strategic reserve from 500,000 MT to 300,000 MT

The calculation of a 300,000 MT strategic maize requirement is given below in Table 10 and is based upon on the following principles, assumptions and calculations concerning calorie requirements based on a 2016 Zambian population of 16.59 million people.

In what follows below, the strategic maize reserve is assumed to be that amount required to meet the human consumption needs of 80 percent of the population for a period of up to three months, during which time additional imports may be arranged (should they ever be required). The reason for treating the strategic maize reserve as being that which is needed for human consumption is that there are other means of mitigating the risk of supply deficits for private sector interests that are dependent on maize grain (predominantly breweries and stock feed), including insurance products.

In the calculations below, the strategic reserve focuses on the requirements of 80 percent of the population for three months. The reason for focusing on 80 percent of the population is that it is recognised that with changing food consumption patterns in Zambia, many wealthier households, predominantly living in urban areas, are increasingly spending a far smaller share of their food expenditure on staples including maize (Chisanga and Zulu-Mbata, 2017).
Table 10: Calculation of strategic maize requirement

<table>
<thead>
<tr>
<th>#</th>
<th>Details</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Age-weighted total daily kCal requirement</td>
<td>1,808</td>
</tr>
<tr>
<td>b</td>
<td>Latest population estimates (2016)</td>
<td>16,590,000</td>
</tr>
<tr>
<td>c</td>
<td>Daily overall kCal requirement for total population</td>
<td>29,996,540,692</td>
</tr>
<tr>
<td>d</td>
<td>Daily kCal requirement from maize</td>
<td>820</td>
</tr>
<tr>
<td>e</td>
<td>Maize share of total daily kCal required</td>
<td>0.45</td>
</tr>
<tr>
<td>f</td>
<td>Daily population kCal requirement from maize</td>
<td>13,603,800,000</td>
</tr>
<tr>
<td>g</td>
<td>kCal obtained per Kg of maize</td>
<td>3,350</td>
</tr>
<tr>
<td>h</td>
<td>Daily maize requirement in Kg</td>
<td>4,060,836</td>
</tr>
<tr>
<td>i</td>
<td>Maize requirement per month (Kg)</td>
<td>121,825,075</td>
</tr>
<tr>
<td>j</td>
<td>Maize requirement per month (MT)</td>
<td>121,825</td>
</tr>
<tr>
<td>k</td>
<td>Three month maize requirement (total population) in MT</td>
<td>365,475</td>
</tr>
<tr>
<td>l</td>
<td>Three month maize requirement (80% population) in MT</td>
<td>292,380</td>
</tr>
</tbody>
</table>

Source: Authors calculations based on demographic group shares in the 2010 census and assumptions used in the National Food Balance Sheet. Notes: Age-weighted kCal requirement accounts for different recommended calorie requirements, based on Zambia’s demographic composition in 2010 census. Daily kCal required from maize and kCal per Kg of maize taken from Zambian National Food Balance Sheet

Despite the calculations above showing that the actual strategic maize reserve needed is much lower than the current statutory 500,000 MT, if the move from 500,000 MT to 300,000 MT appears too much for some to accept, it is important to recognise that this does not preclude the possibility of using other market based tools for hedging against risk of maize supply deficits. For example, one possibility would be to purchase future options for maize, which brings the financial benefit of not needing to physically procure, transport and store so much grain, while still providing an insurance against any possible supply side shocks by effectively buying the right to purchase a given amount of grain in the future for an agreed price.

However, in brief, as the foregoing discussion above shows, based on a calculation of the amount of maize required to meet the Zambian population’s needs for three months, there are very clear grounds to reduce the current strategic grain reserve to nearer 300,000 MT.
4.3.2 *Anticipated short- to medium-term impacts of FRA reforms*

As with the proposed FISP reforms, there are also very good reasons to believe that the proposed FRA reforms would in fact lead to an improvement in overall social welfare across Zambia.

Regarding the proposals to ‘scale back the amount of maize that is physically held as a strategic reserve from the current statutory level of 500,000 MT to 300,000 MT and re-focusing the FRA back to its core role of providing a buffer to ensure strategic reserves of maize in the event of national need’, the main concern here is likely to be over impacts on Zambia’s ability to feed its citizens in the event of a major maize production crisis. In reality, despite the historical sensitivities around maintaining physical stocks, lowering the level of physically held stocks to 300,000MT actually does not need to impact negatively upon Zambia’s ability to meet its maize requirements for a number of reasons:

- Firstly, based on the calculations in Table 10, which take into account Zambia’s population, its demographics, changing food patterns and maize requirements, even 292,380 MT of maize would be sufficient to provide 80 percent of the Zambian population (13,272,000 people) with a monthly average of 22 Kg of maize per person for a full three months (or 730g per person per day).²

- Secondly, Zambia today is far better positioned to deal with any supply deficits than it was in 1996 and 2005 when the FRA mandate was extended (Chisanga and Chapoto, 2016). Land under maize cultivation has more than doubled along with the area under irrigation, which has increased Zambia’s resilience to droughts. There are also improved food security monitoring mechanisms in place which allow for an earlier response, meaning that three months of maize stocks appears to in fact be a generous time allowance. The trend has been the desire to utilise the strategic stock for price stabilisation purposes. Unfortunately, this has not worked well as millers with access to subsidised grain do not pass the subsidy to consumers. To the best of our knowledge, there is no time in the past decade

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² A critical problem facing Zambia has actually been too much of a focus on the notion of ‘national food security’ over ‘household food security’, with the latter ultimately needing to be addressed through the demand side, by increasing the resources available to poor and vulnerable households at risk of food insecurity (e.g. through social protection).

³ 292,380 MT is equivalent to 292,380,000 Kg. Divided by 13,272,000 people = 22.03 Kg per person per month, which is approximately 730g of maize per day.
that the maize reserve was ever fully utilised as an emergency stock.

- Thirdly, it is no longer the case that grain stocks need to be physically held to address episodes of food insecurity as alternative options exist that represent a better use of scarce financial resources. As noted above, financial products now exist such that future options can be purchased which allow for the purchase of a specified amount of grain at a fixed price in the future. In addition, the country can set up a Strategic Food Reserve Fund which can be used to procure grain or other foods from either regional or international markets.

Ultimately, looking at other countries in the region, it is clear that the GRZ has been purchasing very high shares of total national marketed grain output, where in 2011 it was as high as 90 percent (Figure 1). By contrast, Ghana’s National Food Buffer Stock Company only purchases between three and five percent, while Tanzania’s Strategic Grain Reserve purchases around just one percent of total production (Chilundika and Mulungu, 2016).

**Figure 1: Overview of key agricultural intervention aims and intended beneficiaries**

![Graph showing key agricultural interventions](image)

Source: Subakanya et al. (2017), computed from CSO/MAL Crop Forecast Surveys (CFS) and Post-Harvest Surveys (PHS); 2004 and 2008 Supplemental Survey to the CSO/MACO/FSRP Post-Harvest Surveys.

Notes: The percentages represent FRA purchases as a percentage of projected total maize sales.

In fact, far from having a negative impact, the reduction in physically held stocks to 300,000 MT would in fact bring about a number of economic benefits. These arise not just from the fiscal savings that would be achieved and benefits arising from alternative uses of scarce funds, but also those arising through the reduction of the Government involvement in grain markets, which has
been found to lead to volatility, high consumer prices, uncertainty and an undermining of private sector involvement.

One remaining fear may be the impact that reducing the amount that FRA purchases has on smallholder producers, maize production and market prices. Here, it is important to emphasise two things. Firstly, as has already been shown above, it is in fact the excessive involvement of the FRA in maize markets that has negatively distorted market prices and seen significant experience of late payments, all to the detriment of smallholder farmers and consumers in Zambia. Therefore, the lessening of the Government involvement in maize market is expected to lead to an improved situation in this respect, allowing for greater private sector involvement in grain purchases. Secondly, the reform proposals are not suggesting a complete removal of FRA involvement in maize purchases, but rather that the FRA return to a more economically justified position of purchasing more limited stock levels and ‘focusing on areas that produce a surplus but which are not yet well served by the private sector’, allowing the private sector to instead play a greater role elsewhere.

Care will need to be taken, however, in terms of encouraging the private sector to emerge in those areas the FRA purchases from as otherwise experience shows that excessive Government involvement can hold back the private sector from emerging. For example, Government could make infrastructure investments to increase the attractiveness of private sector actors operating in certain areas that are currently underserved by the private sector.

The final proposal was a ‘shifting towards the government playing less of a role in direct procurement and management, by procuring reserves at the market price via ZAMACE, and with maize stored in certified warehouses’. Here, as with the points raised above, the retrenchment of direct Government involvement in the purchasing of maize is expected to actually bring about a net economic improvement through considerably reduced fiscal burden, better use of funds (see section 6), and allowing for a greater role for the private sector.

4.3.3 Fiscal savings from FRA reform

The reforms to the FRA described above could lead to substantial cost-savings over the next five years. Based on estimates presented in Annex 1, the GRZ could stand to gain around US$ 44 million by reducing the strategic reserve to 300,000 MT. As calculations in Annex 1 show, the gross cost of holding 500,000 MT of maize in 2016 was equivalent to around ZMW 1.032 billion. Reducing
the grain reserve to 300,000 MT (a reduction of 40 percent) implies a cost of ZMW 619.5 million, which represents a saving of ZMW 4.13 million (approximately US$ 43.8 million). A summary is provided below in Table 11.

It is important to note that these savings do not include savings that would be gained by the government playing less of a role in direct procurement and management, by procuring reserves at the market price via the Zambian Commodity Exchange, and with maize stored in certified warehouses.

<table>
<thead>
<tr>
<th>Level of physical reserves held (MT)</th>
<th>Gross cost (ZMW)</th>
<th>Gross cost (US$)</th>
<th>Annual saving compared to 500,000MT (ZMW)</th>
<th>Annual saving compared to 500,000MT (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500,000</td>
<td>1,032,500,000</td>
<td>109,470,323</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>400,000</td>
<td>826,000,000</td>
<td>87,576,258</td>
<td>206,500,000</td>
<td>21,894,065</td>
</tr>
<tr>
<td>300,000</td>
<td>619,500,000</td>
<td>65,682,194</td>
<td>413,000,000</td>
<td>43,788,129</td>
</tr>
</tbody>
</table>

Source: Authors calculations (2017)
Notes: Exchange rate $1=9.43178
5. Social Protection in Zambia

5.1 Overview of social protection programmes in Zambia

Having looked at the case for reform of the FISP and FRA, this section now makes the case for using some of the savings to invest in scaling-up politically popular social protection policies, including significantly increasing the number of SCT beneficiaries. Before setting out the options, it is useful to explain the rationale for using a share of the savings from FISP and FRA reform to fund an expansion in social protection measures.

Firstly, it is important to recognise that a large proportion of the poorest and most vulnerable households in Zambia live in rural areas and depend heavily on agriculture. This means that these are also the households that are prime candidates for requiring social protection. These overlaps between agriculture and social protection become important as we think about FISP and FRA reform as there are a number of social protection schemes that have strong potential for helping deliver on agricultural policy objectives.

Second, investments in social protection measures make good economic sense in Zambia where a staggering eight out of every ten households live under the poverty line in rural areas. Poor and vulnerable individuals and households are held back from fully participating in the economy, undermining economic growth potential, through lower productivity as well as lower levels of human capital development, and a lack of incentives to invest in more profitable higher-risk activities. Evidence on the Social Cash Transfer Programme (SCTP) show how each Kwacha invested in the SCTP (which targets the poorest households) offers returns well beyond that one Kwacha, as households make purchases and investments within the local economy, thereby spurring economic growth (Thome et al., 2014).

Taken from another angle, given the wide-ranging negative economic impacts that child malnutrition has on the economy, evidence also highlights the substantial economic returns that would be achieved through measures to tackle this major social problem. According to the latest
Global Nutrition Report, preventing malnutrition delivers US$ 16 in returns on investment for every US$ 1 spent (IFPRI, 2016). More resources in the hands of poor households would also go a significant way to improving the economic position of households, thereby addressing household level food security, which is the critical form of food insecurity faced in Zambia.

It is not just for economic reasons that investments should be made in strengthening the social protection system; there are also important social reasons. Key among these is that Zambia currently has one of the highest levels of income inequality in the world, which has not been helped by the regressive way in which the FISP and FRA have been implemented, benefiting better-off households, while at the same time taking away resources that could be spent on reducing poverty.

Investing in appropriate social protection measures that reach poor and vulnerable individuals and households will go a long way to addressing socio-economic inequality in the country, at the same time supporting broader-based economic growth. Zambia also currently has a very low level of spending on social safety nets, with a projected spend in 2017 of just 0.75 percent of Gross Domestic Product (GDP), translating into very low coverage of those in greatest need. This low expenditure compares to much higher levels in other countries in Sub-Saharan Africa, even much poorer countries, such as Lesotho which spends 4.8 percent of GDP, Sierra Leone (3.5 percent of GDP) or Niger (1.6 percent of GDP) (World Bank, 2015).

Thirdly, there is an important political dimension to investing in a well-targeted social protection system that reaches the poor and those in need, which should be of interest to policy makers and politicians alike. That is, as the Government has found with the SCTP, considerable political capital can be gained through investing in social protection measures that signal a commitment to genuine pro-poor policies that offer protection and livelihood strengthening options to the poor. More specifically, the relatively low cost of the social protection programmes considered below means that government is able to demonstrate its support to a higher number of households at a lower cost.

Therefore, in addition to the economic and social imperatives, investing savings in an enhanced and well-balanced social protection system would also be politically popular by allowing for greater coverage of a higher number of households.
5.2 Social protection programmes and evidence

Below we consider three specific social protection programmes that demonstrate particular important linkages to agriculture. In each case, we describe the programme and summarise related evidence.

5.2.1 Social Cash Transfer Programme (SCTP)

The social protection intervention that has become the most visible in recent years is the SCTP, which receives the largest budgetary allocation among social assistance programmes (21 percent of the social protection budget in 2017\(^8\)). With its origins in a pilot project in Kalomo District in 2003, the SCTP has evolved by testing a range of different targeting models. While differing slightly in their design and focus, the reduction of poverty and its intergenerational transmission have remained core objectives, alongside improving food security, increasing school enrolment and attendance, and increasing asset ownership.

In its latest incarnation (2017), the SCTP now targets incapacitated households with bi-monthly unconditional cash transfers of ZMW 140 (approx. US$ 15.10)\(^9\). The SCTP defines incapacitated as covering households that have either: an elderly member aged 65 years or above; a terminally ill member (medically certified); a severely disabled member in possession of a disability certificate indicating the level of disability; or a child-headed household (0-18 years); or a female-headed household with three or more children.

*Evidence on performance*

Despite a number of continued myths around unconditional cash transfer programmes (see Box 1), a series of multi-year experimental studies have demonstrated the wide-ranging impacts of the SCTP, which has provided households with small regular cash transfers the equivalent of just ZMW 60 per month (2010 to 2013), increasing to ZMW 70 from 2014 (American Institutes of Research (AIR), 2016a, 2016b). These impacts include: reductions in the incidence of extreme poverty and reducing the poverty gap; improved food security (e.g. number of meals eaten and regularity of

\(^8\) The main item of expenditure in the social protection budget is the contributory Public Service Pension Fund, which was allocated 61 percent of the budget in 2017.

\(^9\) As of 21st May 2017 using exchange rate of $1 = ZMW 9.27.
food consumption); improvements in health and basic material needs (e.g. reduced child diarrhoea and improved housing); and increased ownership of household and productive assets.

Despite the very small transfer sizes and its comparatively low cost to the treasury, the same experimental studies have also found the SCTP to have led to economic impacts beyond those intended, including a strengthening of household economic activities, both on-farm and off-farm (e.g. increased maize and groundnut production, increased purchase of fertilizer, increased number of households participating as maize sellers, increased ownership of livestock, and higher savings). In fact, rigorous experimental data show that after three years, incomes of the SCTP beneficiaries was 59 percent higher than the value of the transfers, confirming the evaluation findings of positive multiplier effects arising through investments in productive inputs and activities in and outside agriculture (Handa et al., 2016).

These findings are consistent with other analysis from researchers working with FAO which finds that each Kwacha transferred raised nominal income in the local economy by 1.79 (that is, the investment in the SCTP not only benefits recipients but also spurs further economic activities) (Thome et al., 2014). This is perhaps not surprising given that households spend their transfers in the local economy (e.g. hiring in labour and purchasing livestock), but it demonstrates the important stimulating effect that broad-based cash transfers can have on the rural economy.

Considering the very encouraging evidence on the SCTP, when looking at its costs, it is not an expensive programme. By the end of 2016, the programme covered 242,000 households reaching 1.2 million people. However, the national budgetary allocation to the SCTP was just ZMW 302 million. To put this cost into perspective, the 2015 budget release, which includes donor contributions, shows that whereas the SCTP spent ZMW 240 million, the FISP cost nearly ten times as much at ZMW 2,167 million, despite only reaching (on paper) around four times as many households as the SCTP in 2016 (1 million).\textsuperscript{10} Clearly, the scale of the subsidies and transfers are different. However, given the abundance of evidence around its impact, the SCTP should be considered one of the more cost-effective programmes in Zambia.

\textsuperscript{10} In practice, evidence has shown how the traditional FISP has experienced significant leakage before the subsidized fertilizer reaches its intended beneficiaries so this figure may be an overestimate (Mason and Jayne, 2013).
The SCTP has been the most thoroughly evaluated of Zambia’s social protection schemes, with other schemes not having benefitted from such thorough reviews. Nevertheless, more light-touch reviews of other programmes provide insights into a number of other schemes.

Box 1: Dispelling three common myths associated with unconditional cash transfers

It is useful to take a brief look at three common myths that have been levelled at cash transfers: that they create dependency, encourage purchase of alcohol and cigarettes, or that child grants encourage women to have more children. When looking at the evidence, however, all three of these are in fact just myths.

1. **Cash transfers do not lead to dependency and laziness:** A review of quantitative evidence from eight unconditional cash transfer programmes in sub-Saharan Africa finds that the programmes in fact lead to households investing greater time in their own agricultural production activities and move away from informal wage labour (Handa et al., 2017). These findings are supported by a large scale global review of rigorous evidence on cash transfers, which shows no adverse impacts on labour, but instead increases in agricultural production and the build up of productive assets including livestock (Bastagli et al., 2016).

2. **Cash transfers do not lead to an increase in the purchase of goods such as alcohol and cigarettes:** The same review of eight unconditional cash transfer programmes in sub-Saharan African also found no significant effect of transfers on alcohol or tobacco expenditure, which is in line with a much broader global evidence base, from a systematic review covering 19 studies (Evans and Popova, 2014).

3. **Cash transfers for children do not lead to women having more children:** A review of unconditional cash transfers that looked at fertility outcomes in four Sub-Saharan African countries finds no evidence that transfers incentivised further pregnancies (Handa et al., 2017). Instead, what was found is that maternal and child health improved and there was even evidence of decreased fertility and also increased birth spacing. This is in line with other international evidence (Bastagli et al., 2016).
5.2.2 Food Security Pack and the Expanded Food Security Park

The FSP was launched in 2000 as a flagship social transfer programme. It aimed to help alleviate poverty among the ‘vulnerable but viable’ small-scale farmers through improved productivity and household food security, targeting farmers that are cultivating less than 1 Ha with adequate labour but not in gainful employment. Target households should also meet one indicator of vulnerability (e.g. female-headed household or be a household keeping orphans). While the full programme comprised of four components, its main intervention is Crop Diversification and Conservation Farming, and includes among other things, the provision of a pack of inputs intended to enable beneficiaries to cultivate 1 Ha of cereals, 0.5 Ha of legumes and 0.5 Ha of cassava or sweet potatoes, attached to a repayment in-kind schedule.

However, despite intentions for the programme to reach 20 percent of smallholder households, the coverage was far below the target and has declined substantially, suffering from highly unpredictable funding. By 2017, it was reaching a targeted 40,000 households. This hampered the intended aim of households ‘graduating’ away from the FSP onto the FISP after two to three years. It is estimated that in practice around 10 percent of beneficiaries achieved some form of graduation. Likely due to the volatile funding and poor implementation, the proposed plans for farmers to repay around 10 percent of the cost of inputs in-kind following harvest was also not achieved fully, with repayment rates being closer to 5 percent (Telsuic et al., 2013). One review concluded that the original design of the FSP was ‘probably too complex and ambitious’ (Telsuic et al., 2013).

However, given the continued attractiveness of an input based safety net that reaches households not targeted by the FISP, an Expanded FSP (EFSP) was implemented over 2013 to 2016 with funding from the Royal Norwegian Embassy. This involved various changes, including the use of e-vouchers, to address the former weaknesses of the FSP. A recent evaluation of the EFSP finds that the FSP has enhanced food security and improved nutrition where implemented well (notably, when inputs are received on time), and that the EFSP has helped address some of the key challenges of the traditional FSP, by improving timely receipt of inputs and helping support diversification (Wolkenhauer, 2017). In addition, it finds that the overall design of the FSP as a whole is ‘highly relevant’ for achieving national policy objectives as it addresses critical needs faced by the rural poor, and specifically those unable to pay contributions to inputs, like in the FISP. The evaluation recommends increased funding for the EFSP model to increase the caseload and capitalise
on economies of scale. It also notes the considerable potential for linking the EFSP to the Home-
Grown School Feeding Programme (HGSF), which would bring significant benefits to both pro-
grammes

5.2.3 Home-Grown School Feeding Programme

The current HGSF programme is the result of a merger in 2010 of two earlier programmes – a
World Food Programme (WFP) funded programme similar to the present design and Ministry of
Community Development and Social Services (MCDSS)-run programme that provided meal rations
called Provita, imported from South Africa. As of 2017, HGSF Programme provided one meal of
100g of fortified maize per day to a target of 1,250,000 children in just over 35 of the country’s
106 districts, targeted due to the districts’ high levels of food insecurity, HIV, poverty, malnutrition
and low educational attainment. There are plans to extend this to reach 2 million children by 2020
(out of around 3.4 million).

Evaluations of the Zambian HGSF programme have been limited though a 2011 WFP evaluation
found that it was a relatively cost-effective transfer at the time when it was reaching 850,000
individuals. While the benefits of guaranteeing young children in some of the most deprived areas,
at least one good meal a day is clear, there is still limited evidence on educational outcomes
(Telsuic et al., 2013). However, reviews of global evidence on HGSF programmes to date suggest
school feeding programmes do positively impact the energy and micronutrient level of targeted
children and have small but significant gains in physical and psychosocial health (Kristjansson et
al., 2007). There is also evidence that school feeding programs positively affect school enrollment
and attendance rates, especially for girls (Lawson, 2012; Jomaa et al., 2011).

While evidence on the impacts on farmers is more limited, providing it is designed and
implemented well, there is no reason as to why the HGSF model would not play a vitally important
role in supporting smallholder farmers. Indeed, overall, there is a general consensus that while
HGSF programmes are complex (more complex than conventional school feeding programmes),
they offer strong potential to benefit children while also supporting domestic demand for
agricultural produce (Devereux et al., 2010). It is for this reason that HGSF has been widely
encouraged as a tool for helping address food insecurity, improve educational outcomes and
reduce poverty, including in the 2014 African Union Malabo Declaration.
5.3 Government spending on social protection

In 2017, the Government aimed to spend just 0.75 percent of the projected 2017 GDP on social protection, up from 0.62 percent in 2016. Within the 2018 budget, it has been proposed that spending on social protection will increase by 30.7 percent from ZMW 552.0 million to ZMW 721.2 million, which will be approximately 0.98 percent of the projected 2017 GDP.

Despite the increase, as a proportion of GDP, the 2017 level in Zambia still remains low compared to many other African countries, which in 2013 ranged from about 0.5 percent to 3.5 percent (Tesliuc et al., 2013). The amount African countries spend in turn ranks low by international standards, with Sub-Saharan Africa being the region with the lowest coverage of social protection and labour programmes. Approximately 80 percent of the population in the region is not covered by any scheme, compared to 73 percent in South Asia, 47 percent in the Middle East and North Africa, and 40 percent in Latin America and the Caribbean (ASPIRE, nd).

Even at relatively low budget levels, a considerable amount can be achieved providing that cost-effective approaches can be scaled up. As an example, feasibility studies on the cost of implementing universal cash transfers to all elderly citizens have found that, even at fairly generous benefit levels (up to nearly half of average individual income per month), they could cost under 2 percent of GDP in Malawi and as little as 1 percent of GDP in the Philippines for a monthly pension close to the poverty line (MGCDSW, 2016; COSE, 2016).

Preliminary estimates from a study commissioned by the MCDSS in Zambia indicate that the expansion of a comprehensive and integrated social protection package (comprising expansion of the SCTP in the form of a child grant, old age grant in urban and rural areas, as well as fee waivers for secondary school education, expansion of HGSF and gradual roll out of the e-FISP), could cost as little as 1.83 percent of GDP in 2021 (MCDSS and ILO, 2016). In other words, a considerable amount could be achieved if greater investments are shifted into strengthening of cost-effective social protection measures. Some specific options are now explored in the final section of this paper to show how savings from FISP and FRA reform could help finance a stronger and more effective social protection system.
The proposed reforms to the FISP and FRA discussed above would together achieve annual fiscal savings in the region of ZMW 1.263 billion (US$ 133.9 million) if choosing the option of a FISP beneficiary cap, or ZMW 1.17 billion (US$ 124 million) if opting for the option of a US$ 100 million FISP spending cap. There are of course many options for how these savings could be used. However, it is recommended below that at least 60 percent of the savings be invested into a specific package of social protection measures that would contribute to agricultural policy objectives while reducing poverty and deprivation among a much larger number of households than covered by the FISP and FRA in their present form.

The remaining savings could be used in a wide range of ways, such as being reinvested directly within the agricultural sector in high-return agricultural investments, or used for the purposes of paying down government debt to lessen the fiscal burden of high interest payments. The focus of this section, however, is on the case for using at least 60 percent of the savings to re-invest in a stronger social protection system for Zambia.

6.1 Possible enhancements to Zambia’s social protection system

While we have set out above details of three social protection schemes that show particular links to the agricultural sector, it is worth highlighting that there are a wide range of potential options that could be considered. A wider range of measures that would help strengthen livelihoods of ‘vulnerable but viable’ households, as well as those that would increase the level of Government support to protect and prevent against deprivation among poorer and more vulnerable individuals and households that face various life-cycle risks are included in Annex 3. The options presented have been included on the basis of meeting one of two main criteria:
i. they address the most pressing gaps identified in a recent evaluation commissioned by the MDCSS and the ILO (MCDSS and ILO, 2016); and/or;

ii. they contribute directly or indirectly to agricultural policy objectives, such as stimulating agricultural production, addressing food insecurity and stimulating rural economic growth.

The suite of options in Annex 3 reflects a response to the wide and varied pressing social and economic needs of different types of households and individuals in Zambia. An effective and fair policy package would be one that ensures that there is a good balance of provision for households and individuals with different needs. A package that ensures that there is a good combination of measures that are primarily aimed at protecting them from deprivation (i.e. ensuring a basic social protection floor) along with measures that are also primarily aimed at promoting livelihood strengthening and moves out of poverty over the longer-term (i.e. providing a ‘ladder’). The measures in Annex 3 are categorised into pillars and presented according to these two broad functions.

6.2 Costing two specific social protection packages

While we set out a range of possible social protection schemes and associated justifications for investing in them, this leaves the question of what options are there for combining a package of such measures that would both contribute to agricultural policy objectives and be financially affordable such that it could be paid for through a portion of the savings from the FISP and FRA reforms. Below, we present details of two options that are costed over two years, both of which involve investing in the scale-up of the three measures presented below. It is important to note that the two packages of options presented are just two of many possible options that would achieve high levels of coverage without even using the full amount of fiscal savings from the FISP and FRA. However, the specific package of measures presented below have been selected due to their particular contribution not just to the reduction of poverty and critical vulnerabilities faced

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11 For example, for the same cost of Option 1 below, the government could equally increase the coverage of a ZMW 90 per month SCT by an additional 581,000 households, while for the cost of Option 2 it could reach an additional 727,000 households.
in Zambia that hold back future productivity growth, but also to agricultural policy objectives, including improving food and nutrition security and strengthening livelihoods.

### 6.2.1 Social cash transfer (SCT)

An infant and maternity grant of ZMW 90 per month, targeted towards pregnant women and households with children under two years of age, primarily aimed at tackling the epidemic of undernutrition found across Zambia that is devastating the health and productivity of Zambia’s future workforce. Indeed, Zambia currently has one of the very highest levels of undernutrition in the world. For example, 40 percent of all children under five (around 1.21 million) are stunted. This issue demands urgent attention given that around half of all child deaths are associated with undernutrition (Black et al., 2013). Further, urgent attention is also needed given the wide-ranging lasting negative impacts that undernutrition can have, as well as the heavy burden that it places on the economy and future potential of the country’s workforce.

As was shown earlier, the SCT has wider economic and productive impacts, with evaluations from Zambia showing how they contribute to increased agricultural investments and food security, as well as improving human capital investments among many other positive impacts. Indeed, one of the main areas of expenditure is on a wider range of foodstuffs, which are all generally purchased from local markets (i.e. Zambian farmers).

In general, given the very high levels of poverty and malnutrition in the country, there are good reasons as to why the grant should be targeted to all households meeting the above criteria rather than means testing. A second best option would be an affluence test, similar to that used in the SCT. Firstly, the costs associated with a narrower (e.g. means-based) targeting are unlikely to outweigh the social and economic benefits from a broader categorical targeting approach and, secondly, there is likely to be greater buy-in from better off households if they also benefit. In the past, the Child Grant in Zambia was met with some opposition from individuals who felt it unfair that all households with children should benefit over other poorer households. This was at a time when the poorer households were not getting anything (as they do today through the SCT). Assuming the FSP is also to be extended, this would ensure a much greater coverage of poorer households, lowering any sense of injustice. Moreover, there is need for much better communication on just why it is so important that infants receive adequate support during their
first 1,000 days of life, in order to avoid irreversible physical, social and economic damage to them and their own children.

While the option presented here focuses only on the cash transfer, international evidence increasingly shows that in order to have a truly transformative impact on reducing stunting, it will be important to eventually complement transfers with measures including social and behaviour change communications and strengthening links to health services, depending on the specific drivers of undernutrition in a given area. It is strongly recommended that further discussion on this take place with the various nutrition stakeholders and cooperating partners in the country.

6.2.2 Expansion of the Expended Food Security Pack (EFSP)

The expansion of the EFSP, providing an annual non-contributory lump sum subsidy to the value of ZMW 1,171 per beneficiary household, which can be redeemed at selected private sector agro-dealers. The EFSP would be aimed towards the substantial number of extremely poor but viable farm households for whom the FISP is currently not appropriate (i.e. for whom the e-FISP top-up and cooperative membership remains too expensive), but who could reasonably graduate onto the FISP after two to three years of benefitting from the EFSP.

In effect, the EFSP represents a ‘restricted’ cash transfer in that it limits the ability of its recipients to spend the e-value on agricultural inputs. The main rationale for opting for this as opposed to an ‘unrestricted’ cash transfer is that the intention is for the transfer value to be used purely for increased investments in productive inputs. However, it must be recognised that there are also limitations compared to a pure cash transfer. For example, management of the EFSP (and e-FISP) is far more complicated than a cash transfer, having to deal with not just the beneficiaries, but also with input dealers. It also limits what individual beneficiaries can purchase, depending on the availability of goods at participating retailers. So, for example, farmers may wish to purchase small livestock but may not be able to. It also ignores the fact that poor households often have competing needs which may mean that they have to sell a portion of their inputs at a given point in time to access cash to pay for other items, which they would not have to do if receiving cash transfers. While the EFSP is still proposed in this paper, it would be worth debating and exploring these issues in more depth, especially given the popularity and proven effectiveness of the cash transfer approach in Zambia.
It is important to point out here that there are very good reasons as to why careful consideration should be given for merging the EFSP within the e-FISP (or vice versa), in order to facilitate the original intention of the FSP, which was to see a graduation of beneficiaries over time into the FISP. Such aspirations will be far more difficult to achieve in practice than if the EFSP and e-FISP remain administratively and institutionally separate. Furthermore, significant cost savings and economies of scale could be achieved if it were possible to agree upon a merging of the infrastructure for the EFSP and e-FISP. Indeed, the main difference between the EFSP and e-FISP should primarily centre on the ability to pay the top-up fee required for the e-FISP. Merging the two systems would allow for a more responsive mechanism whereby the subsidy provided decreases over time, with a gradual increase in the farmer’s own contribution.

6.2.3 Expansion of home-grown school feeding programme

An expansion of the Home-Grown School Feeding Programme, which would not only ensure access to one nutritious hot meal per day (consisting of maize, pulses and oil) for primary school children in a context of devastatingly high levels of undernutrition, but would also create a guaranteed market for farmers that are able to produce the required quantity and quality.

Due to the nature of the programme, HGSF can reach a large number of children at very little cost: just ZMW 283 (approximately US$ 28) per child per year, inclusive of administrative costs. It is important to remember that the bulk of this money will go to the farmers who produce for the HGSF programme.

Given the particular contribution that the above three programmes can make, both Option 1 and Option 2 below involve scaling up these same programmes. Both options propose to involve the same scale of expansion in the first year, due to the administrative and institutional limitations on how far programmes can be scaled-up within any given year. The differences between the options arise in the second year, where Option 2 involves a larger scale-up of beneficiaries, financed by making use of a slightly higher proportion of the fiscal savings from the FISP and FRA reforms (75 percent as opposed to 60 percent of the savings). The main differences are summarised in Table 12 below.
As can be seen in both cases, not only do the options allow for a substantial expansion in the number of rural households reached by government support (even after accounting for the reduction in the number of households supported through the FISP), but they also leave significant fiscal resources still available, which may be used for other purposes. Reductions in beneficiaries from the FRA are not included here as it was not possible to confirm the number of farmers that sell to FRA.

**Table 12: Summary of key differences between Option 1 and Option 2**

<table>
<thead>
<tr>
<th>Proportion of savings used from the FISP and FRA reforms in the second year</th>
<th>Option 1</th>
<th>Option 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>75%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Increase in beneficiaries of SCTs</th>
<th>225,000 (to 775,000 beneficiaries)</th>
<th>330,000 (to 880,000 beneficiaries)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in beneficiaries of the FSP</td>
<td>155,000 (to 195,000 beneficiaries)</td>
<td>199,000 (to 239,000 beneficiaries)</td>
</tr>
<tr>
<td>Increase in number of free school meals provided</td>
<td>983,500 (to 2,233,500)</td>
<td>983,500 (to 2,233,500)</td>
</tr>
</tbody>
</table>

| Overall increase in beneficiaries across all three schemes | 1,363,500 | 1,512,500 |

| Reduction in number of FISP beneficiaries through proposed beneficiary cap reform | 500,000 | 500,000 |

| Net increase in number of households benefitting through expansion of social protection schemes, accounting for reduction in FISP beneficiaries | 863,500 | 1,012,500 |

| Total amount of savings still left over after two years | ZMW 781,909,500 (US$82,901,584) | ZMW 567,149,500 (US$60,131,757) |

Exchange rate used: $1 = ZMW 9.43178.
Source: Authors Calculations (2017)

Furthermore, as was indicated earlier, although FRA has been offering above-market prices, there has been a shift to procuring at closer to market prices, plus a significant portion of those selling to FRA received late payments, both of which mean that the ‘loss’ from not accessing the FRA is far less clearly defined than that of the subsidised input price received through the FISP. Indeed, as mentioned earlier, there are good reasons to believe that farmers will be better served over time by an efficiently operating private sector. Further details on Options 1 and 2 are presented in Table 13 and Table 14.
6.3 Some key cross-cutting issues

There are a number of issues that cut across all options and packages, two of which are briefly mentioned here. One issue that will be critical for building a better-integrated social protection system will be the use of more coordinated targeting and Management Information Systems. In particular, it would be important to look at how expansion of programmes could be linked to the current efforts at building the Integrated MIS and Single Registry of Household Beneficiaries (SRB-MIS) being supported by the World Bank. The SRB-MIS will be especially important given the emphasis in the proposals around a more integrated and coordinated system that better differentiates between the different needs of households and, among some households, aims at supporting graduation from one scheme into another and eventually to a position of greater self-reliance over time.

The importance of a single registry has been recognised by the Minister of Agriculture who has proposed for all beneficiaries of the FISP to be included on such a registry to help avoid individuals benefitting from multiple programmes to which they are not entitled (NAZ, 2017). While in some cases it may be desirable to avoid ‘double dipping’ of beneficiaries, in others, the layering of support can actually be an important component of success (e.g. linking existing beneficiaries of the SCT or FISP to agricultural insurance, or savings and credit groups). As was already mentioned, for those households in receipt of the FSP and FISP, the benefit they ultimately receive through the subsidised inputs they receive will be dependent upon a wide range of factors, including climate variability and weather shocks. It is therefore critical that these investments are not seen as standalone, but in need of layering with other additional investments and support to achieve the synergies present.

A second set of issues is the importance of having robust monitoring and evaluation systems in place in order to understand how well schemes are performing and what changes need to be made to achieve better results. As part of this, it is important that functioning communications, grievance and redress mechanisms exist so that citizens are aware of their rights to different social protection schemes, and that their concerns or irregularities can be efficiently passed on to appropriate authorities to take corrective action.
Table 13: Number of beneficiaries reached through Option 2 (using 60% of fiscal savings from FISP and FRA reform)

<table>
<thead>
<tr>
<th>#</th>
<th>Social protection measure</th>
<th>2017</th>
<th>2018/19</th>
<th>2019/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>SCT (Infant &amp; maternity grant to cover first 1,000 days)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of current beneficiaries</td>
<td>550,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total (incl. 2017 caseload)</td>
<td>90,000</td>
<td>225,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Estimated annual unit cost (ZMW)</td>
<td>1,304</td>
<td>1,304</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional cost in ZMW (2017 prices)</td>
<td>117,360,000</td>
<td>293,400,000</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><strong>Food Security Pack</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of current beneficiaries</td>
<td>40,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total (incl. 2017 caseload)</td>
<td>80,000</td>
<td>155,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Estimated annual unit cost (ZMW)</td>
<td>1,200</td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional cost in ZMW (2017 prices)</td>
<td>96,000,000</td>
<td>186,000,000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><strong>Home-Grown School Feeding Programme</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of current beneficiaries</td>
<td>1,250,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total (incl. 2017 caseload)</td>
<td>500,000</td>
<td>983,500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Estimated annual unit cost (ZMW)</td>
<td>283</td>
<td>283</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional cost in ZMW (2017 prices)</td>
<td>141,500,000</td>
<td>278,330,500</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td><strong>Overall Package</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total additional cost in ZMW (2017 prices)</td>
<td>354,860,000</td>
<td>757,730,500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proposed cumulative savings from (Step-Wise) FISP and FRA reform</td>
<td>631,500,000</td>
<td>1,263,000,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total additional cost as share of FISP and FRA savings</td>
<td>56.2%</td>
<td>60.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amount still left from FISP and FRA savings</td>
<td>276,640,000</td>
<td>505,269,500</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors calculations (2017)

Notes:

i) 'Additional cost' and 'Total additional cost' is for the additional beneficiaries reached

ii) Total number of beneficiaries does not account for all household members that will benefit

iii) 2017 beneficiaries of SCT not explicitly targeted to pregnant women or those with infants
### Table 14: Number of beneficiaries reached through Option 1 (using 75% of fiscal savings from FISP and FRA reform)

<table>
<thead>
<tr>
<th>#</th>
<th>Social protection measure</th>
<th>2017</th>
<th>2018/19</th>
<th>2019/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SCT (Infant and maternity grant to cover first 1,000 days)</td>
<td>Cumulative additional beneficiaries reached</td>
<td>100,000</td>
<td>330,000</td>
</tr>
<tr>
<td>2</td>
<td>Number of current beneficiaries</td>
<td>550,000</td>
<td>Total (incl. 2017 caseload)</td>
<td>650,000</td>
</tr>
<tr>
<td></td>
<td>Estimated annual unit cost (ZMW)</td>
<td>1,304</td>
<td>1,304</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional cost in ZMW (2017 prices)</td>
<td>130,400,000</td>
<td>430,320,000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Food Security Pack</td>
<td>Cumulative additional beneficiaries reached</td>
<td>80,000</td>
<td>155,000</td>
</tr>
<tr>
<td></td>
<td>Number of current beneficiaries</td>
<td>40,000</td>
<td>Cumulative additional beneficiaries reached</td>
<td>90,000</td>
</tr>
<tr>
<td></td>
<td>Total (incl. 2017 caseload)</td>
<td>130,000</td>
<td>239,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Estimated annual unit cost (ZMW)</td>
<td>1,200</td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Home-Grown School Feeding</td>
<td>Additional cost in ZMW (2017 prices)</td>
<td>108,000,000</td>
<td>238,800,000</td>
</tr>
<tr>
<td></td>
<td>Number of current beneficiaries</td>
<td>1,250,000</td>
<td>Cumulative additional beneficiaries reached</td>
<td>500,000</td>
</tr>
<tr>
<td></td>
<td>Total (incl. 2017 caseload)</td>
<td>1,750,000</td>
<td>2,233,500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Estimated annual unit cost (ZMW)</td>
<td>283</td>
<td>283</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional cost in ZMW (2017 prices)</td>
<td>141,500,000</td>
<td>278,330,500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total additional cost in ZMW (2017 prices)</td>
<td>379,900,000</td>
<td>947,450,500</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Overall Package</td>
<td>Total number of beneficiaries</td>
<td>690,000</td>
<td>1,512,500</td>
</tr>
<tr>
<td></td>
<td>Proposed cumulative savings from (Step-Wise) FISP and FRA reform</td>
<td>631,500,000</td>
<td>1,263,000,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total additional cost as share of FISP and FRA savings</td>
<td>60.2%</td>
<td>75.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amount still left from FISP and FRA savings</td>
<td>251,600,000</td>
<td>315,549,500</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors calculations (2017)

Notes:
1. Additional cost' and 'Total additional cost' is for the additional beneficiaries reached
2. Total number of beneficiaries does not account for all household members that will benefit
3. 2017 beneficiaries of SCT not explicitly targeted to pregnant women or those with infants
6.4 The politics of reforms

Having set out the proposed reforms to the FISP and FRA and the social protection packages to be financed using a share of the financial savings, we now address the important issue of the politics of reform. In particular, we consider whether there is need for any mitigating measures for any groups that will stand to lose out from the FISP and FRA reforms and then how the combination of the overall policy proposals would work politically.

On the issue of mitigating measures, it was mentioned in section 3 how central to effective price subsidy reform is the importance of understanding who stands to gain and lose from reform processes in order for reforms to remain politically viable. Returning back to the proposed FISP and FRA reforms, we summarise below the main groups of individuals that would stand to lose in the short-term.

**FISP reform:**

- Better off farmers (including village leaders) that cultivate over 5 Ha and have a monthly income somewhat above the poverty line; and
- Individuals throughout the supply chain that have benefitted from leakages of subsidised fertilizer

**FRA reform:**

- Better off, larger-scale farmers from areas already well served by private sector grain markets, who sell to FRA more maize than they buy (net sellers); and
- Larger millers who have gained from preferential FRA sale prices

This brings us to the question of whether any of the above should receive short-term support through mitigating measures and, if so, why and how? Three points are important to note here. Firstly, looking at the targeting guidelines for the three social protection measures set out above, the individuals that stand to lose from the FISP and FRA reforms will generally not gain more from the three social protection measures than they lose. A number may still benefit, however, from the Infant and Maternity Grant, and the HGSF programme. In fact, one cost-free mitigation measure that should be explored would be to link farmers that no longer benefit from the FISP and FRA to the HGSF programme, to allow them to access a guaranteed market for their produce.
Secondly, it is essential to recognise that in a situation of such high levels of poverty, it is simply no longer defensible to subsidise better off farmers, including those that can afford to purchase very large amounts of commercially priced fertilizer. Indeed, continuing to target such households undermines the very objectives of the FISP / FRA, and lowers the fiscal space available for government to tackle poverty and household food insecurity in the country.

Thirdly, as discussed in section 3, evidence from Zambia demonstrates that reform is possible provided there is a clear communication strategy involved. It must explain the rationale for the reforms and how it will allow the Government to provide more appropriate support to a greater number of Zambian citizens in a pro-poor manner. Indeed, the recent proposed 63 percent reduction in the number of FISP beneficiaries (from 1.6 million to 1 million) has met relatively little opposition, and has in fact demonstrated the Government’s resolve to take the tough decisions needed to put the country on a better course. While part of the reason for this lack of visible resistance may be due to the fact that it was discovered that, according to the Minister of Finance, there were 600,000 ‘ghost farmers’, provided there is a clear communication strategy to explain why it is no longer defensible, there is no reason why further reforms cannot be politically workable even without additional mitigation measures.

If, however, it was felt that there was need for some short-term mitigation measures to help cushion the impact on certain groups, the policy measures proposed in this paper do allow for some financial resources to do this in a cost-free manner. The main group for whom it may be desirable to reach would be those being moved away from FISP support as the larger millers should still easily be able to operate at a profit through acquiring grain on the private markets.

As for the farmers, there are a number of potential measures that could be considered, summarised in Box 2, which would also support the agricultural sector more broadly. Of course, there are important trade-offs in deciding to use the remaining savings in this way, as it gives less room for spending on other areas or using the remaining savings to pay down Government debt and lower the financial pressures on the country. As such, careful consideration will be required in weighing up the options.
Turning to the question of how the overall combination of policy reforms set out in this paper would work politically, there are three good reasons as to why this would be the case. Indeed, the overall package is not just economically and socially smart but also politically smart also.

Firstly, the overall combination of policy reform and social protection investments allows the government to reach a far higher number of citizens overall than it can at present through the FISP and FRA. As shown above in Table 8, it is estimated that Option 1 would allow for an increase in the number of households reached by an additional 790,500, and Option 2 by 923,500. This considerable expansion in the footprint of Government support will be felt strongly across the country and allow the Government to demonstrate its commitment to reaching out to the many poorer households and vulnerable individuals in Zambia that have so for long been left out and underserved.

Secondly, the SCT approach in particular has demonstrated itself to be highly popular in Zambia, with visible results in the communities where it operates, despite the relatively small transfer levels involved. Part of the reason for this is that cash transfers allow households to direct money in the

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**Box 2: Agricultural investments as a possible mitigation measure for better off farmers**

- Access to affordable finance in order to address the problem of high interest rates facing farmers;
- Investments in irrigation schemes (e.g. irrigation canals and groundwater pumping) in areas with strong potential for year-round crop production and potential for export;
- Investments in organic manure production enterprises in areas where organic manure could be produced in good volume;
- Targeted investments in a package of extension services to assist farmers in diversifying crop production into crops which Zambia could have a comparative advantage;
- Piloting of (initially subsidised) weather-indexed insurance mechanisms to protect small-scale commercial orientated farmers against drought and flooding; and
- Serious and well-managed investments in lead-farmer approaches (crop- and livestock-based agriculture) to disseminate good practices, such as on integrated soil fertility management practices to improve soils and raise crop response to inorganic fertilizer, in the absence of a comprehensive and fully-functioning government extension services.
way they see fit and can help to restore their dignity through being able to afford food for their children to eat better, to send them to school, and not to be so reliant upon government and others for ad-hoc support.

Thirdly, assuming the reforms are implemented to schedule and adequate evaluation of the results is provided for, the Government can use findings from these results to highlight the impacts being achieved in the country as a result of the reforms. This will provide important political capital that may be used to demonstrate the Government’s performance on reducing poverty, strengthening livelihoods and addressing undernutrition; three of the great challenges facing the country today.
7. CONCLUSION

This paper set out to identify a number of reforms that could be made to ensure the FISP and FRA are designed in a more economically justified way, while also creating significant fiscal space to allow for investments to be made in social protection that will address urgent problems of poverty and malnutrition. In doing this, the paper has shown how important overlaps exist between agriculture and social protection in Zambia, such that investments in certain social protection schemes would actually help achieve important agricultural policy objectives.

Overall, the paper made the argument that there is still an economic rationale for FISP and FRA if they can be scaled down in size and focus. The paper then presented a range of options for investing part of the savings from FISP and FRA reform into different social protection schemes, selecting three in particular: an Infant and Maternity Grant provided as a regular cash transfer like the current SCT; an expansion in the Food Security Pack, to reach poorer but viable farmers who cannot reasonably afford to fully benefit from the FISP; and an expansion in the HGSF, which would help stimulate and support agricultural production while at the same time providing a nutritious meal per day for primary school going children.

It was then shown how this overall reform package would not only be economically and socially smart, but politically smart also, allowing government to substantially increase the number of households reached through such measures and also to demonstrate the results of such smart investments as evidence of genuine commitment to pro-poor development.

In brief, the overall policy package offers a ‘triple win’ of ensuring that FISP and FRA can still operate but on a more economically and socially justified basis, freeing up financial resources to expand the total number of beneficiaries reached through government policy, and lastly still having financial resources left to spare. Reform of price subsidies is never straightforward and demands strong and committed leadership, a clear and well thought-through plan, and appropriate communications strategy among others. However, if these obstacles can be overcome, reforms such as those proposed in this paper could mark a historical turning point in Zambia’s trajectory, allowing it to make better use of scarce resources, supporting broad-based economic and social development.

ActionAid, (n.d). The Need to Cultivate Our Farmers’ Futures and Assessment of Nigeria’s GESS Programme.


7. Annexes
Annex 1: Cost to the National Treasury for holding 500,000MT by FRA

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Price/cost-per unit ZMW</th>
<th>Total ZMW</th>
<th>Total US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cost of new crop purchased July - October 2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value based on purchase price</td>
<td>MT</td>
<td>500,000</td>
<td>1,700</td>
<td>850,000,000</td>
<td>85,000,000</td>
</tr>
<tr>
<td>Logistics costs</td>
<td>MT</td>
<td>500,000</td>
<td>200</td>
<td>100,000,000</td>
<td>10,000,000</td>
</tr>
<tr>
<td>Estimated 8 months carry costs (Oct '16 to May '17)*</td>
<td>MT</td>
<td>500,000</td>
<td>90</td>
<td>45,000,000</td>
<td>4,500,000</td>
</tr>
<tr>
<td>Rebagging costs</td>
<td>MT</td>
<td>500,000</td>
<td>100</td>
<td>37,500,000</td>
<td>3,750,000</td>
</tr>
<tr>
<td>Estimated total costs of new crop purchased July-October 2016</td>
<td></td>
<td></td>
<td></td>
<td>1,032,500,000</td>
<td>103,250,000</td>
</tr>
<tr>
<td>Translated Cost/MT as at end May 2017</td>
<td></td>
<td></td>
<td></td>
<td>2,065</td>
<td>207</td>
</tr>
<tr>
<td>2. Value of 2016 Crop at May 2017 Export Parity Prices*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Export Value by May 2017 based on Export Parity Price to Harare</td>
<td>MT</td>
<td>0</td>
<td>2,600</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FRA maize sold at cost local market price</td>
<td></td>
<td>500,000</td>
<td>1,700</td>
<td>850,000,000</td>
<td>85,000,000</td>
</tr>
<tr>
<td>Less 10% storage losses</td>
<td></td>
<td></td>
<td></td>
<td>85,000,000</td>
<td>8,500,000</td>
</tr>
<tr>
<td>Net value of 2016 crop</td>
<td></td>
<td></td>
<td></td>
<td>765,000,000</td>
<td>76,500,000</td>
</tr>
<tr>
<td>3. Summary of Costs to Treasury</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated total costs of new crop purchased July-October 2016</td>
<td></td>
<td></td>
<td></td>
<td>1,032,500,000</td>
<td>103,250,000</td>
</tr>
<tr>
<td><strong>Gross Cost</strong></td>
<td></td>
<td></td>
<td></td>
<td>1,032,500,000</td>
<td>103,250,000</td>
</tr>
<tr>
<td><strong>Net value of 2016 crop</strong></td>
<td></td>
<td></td>
<td></td>
<td>765,000,000</td>
<td>76,500,000</td>
</tr>
<tr>
<td><strong>Gross Export Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td>765,000,000</td>
<td>76,500,000</td>
</tr>
<tr>
<td><strong>LOSS</strong></td>
<td></td>
<td></td>
<td></td>
<td>267,500,000</td>
<td>26,750,000</td>
</tr>
</tbody>
</table>

Source: IAPRI (2017)

Note: The following assumptions are used in computing the above costs to the Treasury: a) Exchange rate 1US$/10ZMW; b) 2016 FRA Purchasing Price/50kg bag at 85 ZMW; c) Logistics cost/50kg bag (transportation, loading and offloading) at 10ZMW; d) finance cost per month at 40ZMW/metric tonne; e) storage losses estimated at 10%.
Annex 2: Proposed provincial allocations to FISP beneficiaries through the e-voucher (2017/18)

Source: Authors illustration with figures from NAZ (2017)
Annex 3: Suite of options for enhancements to Zambia’s social protection system

Social Cash Transfers

<table>
<thead>
<tr>
<th>Social Assistance</th>
<th>Programme and principal target</th>
<th>Economic Targeting</th>
<th>Programme type and benefit levels</th>
<th>Rationale and justification</th>
<th>Administrative and institutional demands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. SCT - Disability Grant</td>
<td>Vulnerable persons with disability (gradual shift from household to individual targeting)</td>
<td>Quintiles 1-4 in rural areas and 1-3 in urban areas</td>
<td>Cash Transfer ZMW 90 per month</td>
<td>The SCT has proven to be a cost-effective and efficient means of ensuring a large number of people avoid deprivation through access to a regular income.</td>
<td>The overall experience of the SCT has revealed a generally adequate capacity to deliver on a programme that has seen substantial expansion over recent years.</td>
</tr>
<tr>
<td>2. SCT - Old Age Grant (65+)</td>
<td>Vulnerable persons with disability (gradual shift from household to individual targeting; and extension to 60+)</td>
<td></td>
<td></td>
<td>In addition, evidence shows that the SCT also generates productive returns at the household level and that cash transfers stimulate local economies.</td>
<td>The expansion of the size of the SCT in terms of beneficiary numbers would therefore unlikely represent any significant challenge.</td>
</tr>
<tr>
<td>3. SCT - Maternity Grant</td>
<td>Vulnerable pregnant women</td>
<td></td>
<td></td>
<td>However, although the current SCT targets the non-affluent elderly and disabled, overall coverage of poor vulnerable households remains low.</td>
<td>The main additional administrative demands would revolve around the increased targeting requirements, tracking and monitoring households.</td>
</tr>
<tr>
<td>4. SCT - Infant Grant (ages 0-2)</td>
<td>Vulnerable children aged 0-2 (max. 3 per household)</td>
<td></td>
<td></td>
<td>In particular, there are currently no programmes providing income security to protect infants during the critical first 1,000 days of life, which is a significant contributor to Zambia’s high levels of malnutrition and poor child health outcomes. This in turn has significant negative economic and social consequences for the country.</td>
<td>This is something that could potentially be supported through the development of the Integrated MIS and Single Registry of Household Beneficiaries (SRB-MIS) being facilitated by the World Bank.</td>
</tr>
<tr>
<td>5. SCT - Vulnerable Children</td>
<td>Children living in female-headed households (with more than 3 children); child-headed households</td>
<td></td>
<td></td>
<td>Contrary to the expectations of some, international evidence does not find that maternal and infant grants encourage increased fertility.</td>
<td></td>
</tr>
</tbody>
</table>
# Home Grown School Feeding Programme

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Programme and principal target</th>
<th>Economic Targeting</th>
<th>Programme type and benefit levels</th>
<th>Rationale and justification</th>
<th>Administrative and institutional demands</th>
</tr>
</thead>
</table>
| Social Assistance | Home Grown School Feeding (HGSF) Students in grades 1-7 | Universal in rural areas | School Feeding Equivalent of ZMW 198 per year per child | • Malnutrition is a major problem in Zambia, with approximately 40% of children (1.21 million) suffering from stunted growth.  
• Consumption of a well-prepared nutritious diet is one critical element to child growth and development.  
• Ensuring that children receive one nutritious meal per day at school contributes to improved nutrient intake and growth, along with other indirect benefits including improved school attendance.  
• When the food used is purchased from domestic markets, school feeding yields an additional benefit of generating demand for Zambian smallholder farmers | • The administrative and institutional demands of HGSF are substantial given the considerable level of planning and organisation involved. This should not be underestimated.  
• Nevertheless, Zambia does have experience of HGSF and has received support from WFP, which itself has a long history of implementing home-grown school feeding programmes. |
### Public Welfare Assistance Scheme

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Programme and principal target</th>
<th>Economic Targeting</th>
<th>Programme type and benefit levels</th>
<th>Rationale and justification</th>
<th>Administrative and institutional demands</th>
</tr>
</thead>
</table>
| Social       | Public Welfare Assistance Scheme (PWAS) Households and individuals suffering from idiosyncratic shocks | On-demand          | One-off support Average of ZMW 300 per occasion | • In addition to the very large number of individuals and families living under the poverty line in Zambia, there are many others living just above it. Sudden shocks such as family bereavements, livestock loss or weather-related disasters can push people into destitution.  
• It is important to have a programme that can be reactive to such needs at a very local level to provide timely support for protection.  
• The PWAS is an existing programme that provides one-off support to vulnerable households that suffer sudden shocks and household emergencies.  
• Its flexible approach means it can respond in the event of shocks to support households that may not be covered by other forms of government assistance.                                                                                                                                                                                                                                                                                                                                                       | Local systems already exist to identify target households (PWAS committees that operate below ward level) |
### Secondary School Fee Waiver

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Programme and principal target</th>
<th>Economic Targeting</th>
<th>Programme type and benefit levels</th>
<th>Rationale and justification</th>
<th>Administrative and institutional demands</th>
</tr>
</thead>
</table>
| Livelihoods and Empowerment | Secondary School Fee Waiver   | Students Grades 8-12                                                              | Quintiles 1-4 in rural areas; quintiles 1-3 in urban areas | Fee Waiver ZMW 2,500 per year | • Young people represent over half of Zambia’s population and the youth population is set to grow even further over coming years.  
  • However, 28% of those of secondary school age.  
  • Dropout is higher for those from the poorest backgrounds and secondary school aged girls are also disproportionately more likely to be out of school compared to their male peers.  
  • Female dropout is strongly associated with early child marriage and adolescent pregnancies.  
  • Unless support is given to ensure that more children receive a basic formal education, it will limit the employment options and future productivity of Zambia’s workforce.  
  • School bursaries would help ensure that all children are able to complete their secondary education regardless of ability to pay. | • Identifying which children should be eligible for a bursary could be simplified by initially targeting those households benefitting from the SCT that have school-going children.  
  • In future, bursaries could also be linked to other poverty-targeted social assistance programmes via a Single Registry of Household Beneficiaries that is currently being developed  
  • Transfer of bursaries would not require any greater capacity than which has been developed for rolling out the SCT programme. |
<table>
<thead>
<tr>
<th>Pillar</th>
<th>Programme and principal target</th>
<th>Economic Targeting</th>
<th>Programme type and benefit levels</th>
<th>Rationale and justification</th>
<th>Administrative and institutional demands</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Livelihoods and Empowerment</strong></td>
<td><strong>Food Security Pack (FSP)</strong> Poor small scale farmers</td>
<td>Quintiles 1-2 in rural areas, through the MCDSS</td>
<td>E-voucher for productive inputs ZMW 1,200 per year</td>
<td>• Cost of agricultural inputs remains high for poorer households making some unable to even pay the co-payment required for the e-FISP. The result is that a large proportion of the poorest households remain without adequate access to improved agricultural inputs and are stuck in low productivity traps. • For such households, the co-payment that is required in the e-FISP could be waived for a fixed period (e.g. two to three years) before they are graduated onto the e-FISP. • Beneficiaries could use a fixed value of credit towards the purchase of agricultural inputs or livestock of their choice, topping up with their own funds if they have any.</td>
<td>• In the original FSP, there was a large gap between the capacity required and the capacity available, though much of the capacity was taken up with procurement and distribution tasks (Telsuic, 2013). Given that procurement and distribution is removed from the new EFSP (as farmers purchase directly from agro-dealers) this greatly reduces the administrative capacity required relative to the earlier FSP. • A shift to a two-tier e-FISP model that merges EFSP into e-FISP would likely yield considerable administrative, institutional and financial savings.</td>
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### Public works for urban areas

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Programme and principal target</th>
<th>Economic Targeting</th>
<th>Programme type and benefit levels</th>
<th>Rationale and justification</th>
<th>Administrative and institutional demands</th>
</tr>
</thead>
</table>
| Livelihoods and Empowerment | Public works for urban areas Vulnerable landless (urban) individuals | Self-targeting landless individuals | Public works Guarantee of a minimum number of paid work days throughout the year | • Public works could offer an income to those who lack land and other better employment opportunities.  
• While individuals would receive a wage for the days worked, the works that are carried out (e.g. road maintenance and water conservation) could also bring about a range of benefits to wider society. | • The administrative demands involved in managing public works should not be underestimated.  
• International experience shows that a particular challenge is finding sufficient appropriate work across different parts of the country.  
• If targeted within limited specific geographic locations (e.g. urban areas) the administrative demands could become more manageable. |
**Weather index insurance**

<table>
<thead>
<tr>
<th>Pillar</th>
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</tr>
</thead>
</table>
| Livelihoods and Empowerment | Weather index insurance FISP beneficiaries and beneficiaries of the EFSP | Beneficiaries of FISP and EFSP | Subsidised agricultural insurance premiums (Cost/benefit level TBD) | • Even if farmers have access to fertilizer and improved seeds, irregular weather and unfavourable climate can have a devastating effect on livelihoods and food security.  
• Furthermore, one of the major factors undermining investment in higher profit agricultural activities is risk, which weather insurance can help to mitigate  
• Index-based weather insurance products now exist that can give farmers an automatic pay-out in the event of bad weather if a particular threshold is met based on information received through satellite technology.  
• The government has already proposed to introduce weather index insurance for FISP beneficiaries by using ZMW 100 of the ZMW 400 farmer contribution towards a crop insurance premium.  
• The layering of support in the form of insurance to FISP and EFSP beneficiaries would further increase their likelihood of graduating out of poverty over time | • Index-based weather insurance is itself a highly complex venture. However, private insurance companies exist that offer these products, meaning it is not something the government needs to get involved in, providing it has the capacity and technical guidance to be able to effectively manage a tender for appropriate service providers.  
• The main role of the government would be to identify an appropriate provider and target subsidised insurance premiums to farmers in order that they are covered through the insurance product.  
• As such, the demands become more modest.  
• This is a relatively new area for the government but a number of stakeholders such as WFP and FAO are well positioned to offer technical support. |