



OPPORTUNITIES AND CHALLENGES IN ENHANCING AGRICULTURAL DEVELOPMENT IN ZAMBIA

**Advisory Note submitted to
The Ministry of Agriculture and Livestock**

21st February 2015

1.0 INTRODUCTION

The revised Sixth National Development Plan, aligned to the PF Manifesto, recognizes that agricultural development is critical for achieving inclusive growth and poverty reduction in Zambia. These documents clearly indicate that to attain more inclusive agricultural growth there is urgent need to address the “unbalanced agriculture policies which have favoured maize production and disadvantaged the production of other crops”. Despite this recognition, very little progress has been made to diversify agricultural spending away from its current focus on maize, a low value crop.

The consequences of the current policy approaches, where the majority of the agricultural budget is used to subsidize inputs for maize production and maize markets, are clear. Despite achieving annual growth rates of more than 6 per cent in agriculture, crop yields remain low by international standards and rural poverty rates remain stubbornly high at about 80 per cent. The paradox of growth without poverty reduction suggests that income inequality in rural areas is growing rapidly, while limited progress is being made to improve the productivity of small-scale farms.

At the heart of Zambia’s agricultural growth paradox is its heavy reliance on the Farmer Input Support Programme (FISP) and output price support via the Food Reserve Agency (FRA). These two programmes have been costly and ineffective at addressing high rural poverty rates and low crop productivity. Moreover, they tend to disproportionately support farmers with larger land sizes and asset endowments. For agricultural spending to effectively address the challenges of entrenched rural poverty and low crop productivity, it must be better targeted to poorer farmers, it must further target crops that are better suited for the small land sizes that predominate in rural Zambia and must be less prone to appropriation by more wealthy and powerful individuals. The crops promoted by Government should be those that are conducive to a given agro-ecological zone and also the same should be economically profitable without government input subsidies or output price support.

Current agricultural policies in Zambia do not achieve these objectives. Instead, they constrain growth by under-funding investments in key agricultural growth drivers that can benefit all rural people, such as rural infrastructure (roads, rail, and telecommunication), agricultural research and development, market information, irrigation and institutions that foster the development of effective markets, and complementary services such as agricultural extension and credit. Also, the maize centric policies are undermining Zambia’s ability to become a stronger player in the regional agricultural sector, which further inhibits inclusive growth.

This Advisory note is the result of a stakeholder consultation process spearheaded by Indaba Agricultural Policy Research Institute. The policy options and recommendations come from years of broad consultation with key agricultural stakeholders and the results from extensive empirical studies in Zambia. The expected impact of adopting the proposals contained in this document include increased productivity of Zambian agriculture, reduced rural poverty rates, increased national food security, crop diversification, improved agricultural markets, less pressure on the Treasury stemming from agricultural subsidies and Zambia emerging as a leading regional exporter of agricultural products. Continuation of the status quo will lead to mounting Treasury deficits, wealth inequality, continued high rural poverty rates, and will not effectively promote production or productivity growth of other commodities apart from maize.

2.0 CHALLENGES AND RECOMMENDED POLICY OPTIONS

2.1 THE CURRENT HUGE FRA MAIZE STOCKS

Zambia in 2014 recorded yet another maize bumper harvest of 3.4 million metric tons (MT). As usual, the policy makers were confronted by the classic “food price dilemma.” On the one hand, they were under pressure to ensure that maize producers received a higher price in a bumper harvest year and on the other hand, they were under pressure to keep mealie-meal prices at tolerable prices for consumers. Unfortunately, the government has not been very successful in striking a balance between these two competing objectives mainly because the solutions tend to alienate the private sector through unpredictable policies.

In responding to this unprecedented bumper harvest, the FRA once again departed from the budgeted purchase target of 500,000 tonnes of maize and ended up buying more than twice that target amount placing enormous pressure on the nation’s finances which are already very stretched as witnessed by the growing budget deficit. Currently, FRA is sitting on massive quantities of maize which if not disposed of before the next harvest, the same will continue to act as a source of uncertainty in the 2015/16 marketing season. In particular, a situation of large stocks of maize purchased in 2014 and carried forward into the 2015/16 marketing season will make private sector actors less willing to buy maize from smallholder farmers, it will undermine the banks’ willingness to support commercial maize production and grain storage and will further continue to impose a massive financial burden on the Treasury. If nothing

is done immediately to dispose the large maize quantities, a large amount of it will potentially go to waste/spoiled because of inadequate and poor storage.

2.1.1 Policy Options/Recommendations

The current efforts to export maize to neighboring countries especially Zimbabwe would be inadequate to deplete the stocks before the next harvest due to existing transportation bottlenecks, non-competitive FRA price and insufficient maize demand in the region. Therefore, there is need to start thinking about other ways of disposing of the stocks in ways that contribute to Zambia's national interests. We recommend the following short-term measures:

1. *Consider discounting the price to increase demand for Zambian maize which is currently not competitive in the region;*
2. *Consider selling maize to the World Food Programme (WFP) and other similar institutions at discounted price for delivery to flood- affected countries such as Malawi, Mozambique and other disaster affected countries*
3. *Consider making FRA maize stocks immediately available for purchase by both formal and informal traders, hammer millers and the general public. This could be done through FRA setting up fair price distribution centres in high population density areas throughout the country. In addition, FRA should consider opening its sheds around the country and sell maize to rural consumers who would like to take grain to local hammer millers. This will likely help to lower mealie meal prices as large millers will be forced to compete with hammer millers. In addition, this would promote maize value addition especially among backyard and small-scale poultry producers.*
4. *The government should consider donating more maize to school feeding programmes throughout the country*
5. *Consider swap deals of maize for livestock with countries like Namibia and Botswana.*
6. *Consider swap deals of maize for oil or fertilizer with other countries*

This is urgent and requires pragmatic and quick Government action. This should not be business as usual.

2.2 HOW CAN GRZ INVEST THE LIMITED BUDGET RESOURCES IN THE AGRICULTURAL SECTOR?

The distribution of the agricultural budget in the recent past has not placed enough emphasis on broad-based public investments. A significant proportion of the poverty reduction programmes (98 per cent) of the agriculture budget is being spent on the FISP and FRA, which have not proved effective at boosting productivity or reducing rural poverty (appendix 1).

Though politically popular, as the experience in Zambia and other countries in the region demonstrates, these subsidy programs are typically less effective at stimulating agricultural growth than investments in research, extension, roads and other public goods, because subsidies often displace private spending that would otherwise occur and are prone to diversion and manipulation. Heavy spending on FISP and FRA has left few resources to invest in these well **recognized drivers of agricultural growth** and stifled diversification as the country policies are maize-centric. Given that most farmers are land constrained (cultivating on average 2 hectares or less), policies that promote continuous cultivation of a low value crop such as maize will be less likely to solve the poverty problem facing most Zambian smallholders. The other major problem is the continued delayed budget releases to the Ministry of Agriculture and Livestock. For example, extension staff regularly receive their salaries but field operational funds (recurrent expenditure) are released late affecting the delivery of extension services. In addition, the delayed releases do not only affect operations, but affect the performance and/or implementation of other agricultural programs.

2.2.1 Policy Options/Recommendations

1. *Rebalance government funding to key drivers of agricultural growth.* Reorientation of spending, away from FRA and FISP towards increased investment in public goods including:
 - a. irrigation development as a means to mitigate drought and improve productivity;
 - b. crop, soil, and livestock science research and development to enhance genetic advances and refinements in the adaptation of improved practices and technologies;
 - c. extension programs, particularly focusing on effective and appropriate input use, and integrated soil fertility management practices to improve soils and raise crops' response to inorganic fertilizer delivered; and
 - d. Physical infrastructure development.

2. *Improve timing of budget releases.* The government needs to have effective monitoring systems designed to increase budgeting transparency and accountability aimed at reducing or eliminating delayed budget releases.

2.3 FRA'S ROLE IN MAIZE MARKETING?

The FRA has become one of the major drain of financial resources on the national treasury with very limited impacts on poverty reduction and productivity. This is because government expenditure through FRA has been benefiting larger and relatively well-off households, hence having limited impact on rural poverty reduction. Continued bumper harvests have seen FRA expanding its role beyond buying strategic reserves.

Discretionary and unpredictable FRA intervention is one of the greatest policy problems plaguing the maize marketing system and food security in Zambia because actual and potential government interventions by the FRA generate private sector uncertainties and inaction leading to a cycle of recurrent need for government intervention. Buying beyond the prescribed strategic grain reserves target (currently 500,000 metric tonnes) has resulted in farmers getting paid late and making it difficult for the private sector to plan and operate efficiently. Further, FRA offloading maize on the market at a reduced or subsidized price has continued to hurt farmers who produce early maize, grain traders, and all millers who do not have access to price-discounted FRA maize. All this comes at a very huge expense to the Treasury and causes headaches for politicians who are concerned about the country's budget deficit. IAPRI estimates that the cost to the National Treasury for holding the current stock of maize is approximately US\$150 million (see appendix 2).

2.3.1 Policy Options/Recommendations

1. *Enactment of the Agricultural Marketing Act:* In the mixed policy environment, the government co-exists with the private sector as an unfairly large competitor, and this hinders the development of the agricultural sector. Complete government withdrawal from the market is neither realistic nor desirable. However, government must avoid policies that crowd out private sector participation, and should instead seek to facilitate market growth as well as make every effort to leverage private sector investments.

Therefore, as a matter of urgency, government should enact the Agricultural Marketing Act to guide all private and public agricultural marketing activities in Zambia. The Act will provide guidance on the involvement of government in the maize market, fertilizer, seed, crops and livestock markets bringing the most needed policy transparency and predictability that will enhance the market for smallholder farmers.

2. Government is commended for effecting an open border maize policy. This will in a very short period of time make Zambia become the maize bread basket for the East and Southern Africa. This policy should be further emphasized as has been the case with the seed industry. Traders always think ahead and plan in the long term. Zambia should become a reliable supplier of maize and other agricultural products such as soybeans, wheat etc. at all times. This action will further ease the sustainable operation of the commodity exchange (ZAMACE) and effectively operationalize the Warehouse Receipt System. This action will render available a ready and reliable market for small holder farmers' produce while at the same time reduce the need for Zambia to hold a large and expensive size of the maize strategic reserve
3. FRA's role should be limited to purchasing strategic reserves and should stick to **prescribed quantities and areas of purchase**. Any attempt to deviate from this role is usually accompanied by undesirable effects on farmers and the private sector participation.
4. FRA should purchase strategic reserves at market prices including buying through the warehouse receipt system (ZAMACE). FRA buying of maize through ZAMACE will lead to an efficient market that is not distorted.

The signing of Statutory Instrument 59 authorizing ZAMACE to perform the functions of the Warehouse Licensing Authority would enhance private sector marketing of maize, soybeans and wheat, bring stability and predictability to commodity prices as well as help farmers who produce a surplus to access credit through the warehouse receipts system. To hasten the operationalization of the warehouse receipts system and commodity exchange in Zambia, FRA could take the lead and buy the strategic reserves requirements through certified warehouses and sell the same grain through the exchange. This is an innovative approach that does not distort the market.

4. FRA should dispose unused strategic reserves at market prices both to formal and informal sector as well as selling through the commodity exchange.
5. Government should promote and incentivize the private sector in investing in storage facilities as they are more cost effective. Another option, is for government to consider using the private sector to store the strategic reserves to minimize storage losses.
6. Reduction of the annual Strategic Grain Reserve is required. In the long run, it is necessary for the Government to review the country's strategic grain reserve requirement that is purchased through FRA. The current 500, 000 metric tonnes (MT) is considerably more than what the country needs if there is an impending drought. The country is now better placed to deal with any shocks without the need to hold such huge and expensive stock levels due to:
 - a. the improved irrigation capacity in the country -- commercial farmers at short notice can be contracted to produce maize to fill any anticipated shortfall;
 - b. consumption patterns today are different from many years ago -- demand for non-maize food products is increasing;
 - c. the infrastructure to procure and import grain has improved over the years; and
 - d. there are cheaper alternatives compared to physically holding all strategic reserves for at least eight months.
7. Government through FRA to seriously consider taking positions/options on commodity exchanges in the region and Zambia (ZAMACE) for part of the strategic grain reserves. The current reserve of 500,000 could be reduced significantly and save the country, the huge costs that it incurs today through storage losses and the opportunity cost of funds tied up in the stocks.

2.4 HOW TO EFFECTIVELY REFORM THE FISP TO INCREASE AGRICULTURAL PRODUCTIVITY AND PRIVATE SECTOR INPUT DISTRIBUTION NETWORK?

Since 2002, Zambia has been spending roughly 40 percent of the agricultural sector budget on the FISP, a subsidy programme mainly supporting the production of maize. The aim of this subsidy program is to increase agricultural productivity, rural incomes, and national food security, while at the same time aiding

in the development of private sector input markets. But the evidence suggests that it has not worked, while it cannot be disputed that during the FISP period, the nation has experienced tremendous increases in maize production (mainly through area expansion as a result of above market FRA prices), this has been achieved at a huge cost to the treasury while the impact on maize yields, input market development and poverty has been minimal.

IAPRI's research evidence has shown that FISP is poorly implemented with farmers experiencing major delays in getting fertilizer, which significantly reduces maize yields. Targeting of farmer beneficiaries has been poor. The program has also unfortunately crowded out the private sector. Furthermore, the Government is investing heavily in Compound D fertilizer which is not suitable to large parts of Zambia where the soils are acidic. The use of inappropriate fertilizer undermines maize yield.

2.4.1 Policy Options/Recommendations

1. Implementation of a flexible E-Voucher: The government should be commended for allocating some resources in the 2015 budget towards the implementation of an E-voucher in addition to the traditional system. However, we encourage the government to extend the voucher so that it can be used to purchase inputs other than fertilizer which are vital to boosting broad based productivity. These include seeds for other crops, veterinary medicines, blended fertilizers, lime, herbicides, tractor services, farming equipment, chaka hoes, rippers etc.
2. To effectively pilot the E-voucher, it makes economic sense to roll it out across all accessible areas especially those on the line of rail or pilot the programme exclusively in two selected provinces as opposed to randomly selected districts in a province(s). Having two regimes running parallel to each other in one province will inhibit the effectiveness of the E-voucher pilot.
3. For the government E-voucher programme to be successfully implemented like the success stories of the Conservation Farming Unit (CFU), the Food and Agricultural Organization (FAO) Farmer Input Research Initiative (FISRI) the Lima Program(ZNFU) etc., the following need to be put in place:
 - i. Government should immediately announce that the 2015/16 FISP will be implemented through a flexible voucher system.

- ii. Publish the number of vouchers that will be distributed in each district to allow enough time for private fertilizer and input dealers to start positioning themselves for the next agricultural season.
 - iii. Publish what inputs will be covered by the voucher, so that stockists can put these into place on time.
 - iv. Reassure private actors that the e-voucher will be honored. The government needs to develop a transparent payment fund that guarantees quick payment of any redeemed vouchers. Without having this guarantee, it is unlikely that sufficient private actors would participate in the market, thus undermining the E-voucher programme.
 - v. Government to start identifying beneficiaries and putting the payment system in place.
1. Prioritize some investment in identifying appropriate fertilizers for each agro-ecological region and ensure extension officers are adequately trained and provided with enough and timely resources to enable them to disseminate this information effectively.
 2. Government should consider putting more resources to social cash transfers to assist the vulnerable. Cash transfers have proven to be effective in assisting vulnerable households as well as help stimulate grassroots economic activity.
 3. To effect the above recommendations, high-level political will is inevitable.

2.5 HOW TO MAKE ZAMBIA THE BREAD BASKET OF THE REGION?

While Zambia is often talked about as a potential breadbasket for the region, this potential has not been realized. There are two main questions that policy makers have to urgently address in order to harness the potential of Zambia becoming a regional bread basket. First, how can Zambia become competitive in regional agricultural markets given that crop surpluses in Zambia frequently coincide with surpluses in other grain producing countries? Second, how can Zambia better compete for the chronic deficit markets in the neighboring countries such as Zimbabwe and DR Congo? The following provides some solutions to these questions:

2.5.1 Policy options/Recommendations

1. Enact the Agricultural Marketing Act. The same will make agriculture operations predictable, rules-based market and trade policies (including elimination of import and export bans) that are essential for Zambia if it is to become a major regional player in agriculture.
2. Complying with regional food safety and quality standards to ensure Zambia can access regional markets.
3. *Ensure that Zambia does not price itself out of export markets. Over the past few years, FRA prices have been way above the market price and in some years announced before the crop forecast exercise is completed. FRA producer prices, should consider the following:*
 - a. Supply and demand conditions in the country, regional and international markets.
 - b. Cost of production estimates from MAL/CSO/IAPRI farm household surveys.
 - c. Consider import and export parity prices
 - d. FRA buying price should only be set after the crop forecast and cost of production have been announced.
4. Encourage and incentivize agro-processing firms to increase crop exports, create employment, and spur agricultural growth.
5. To realize its export potential, Zambia cannot simply rely on maize but has to produce and export other cash crops such as soya, wheat, groundnuts, fruits etc

3.0 STRATEGIC DIVERSIFICATION

As is widely accepted, if Zambia is to witness sustainable agricultural growth and poverty reduction it will need to diversify agricultural output as per the PF Manifesto. This entails investing in other subsectors such as horticulture, livestock and fisheries.

3.1 HORTICULTURE PRODUCTION AND MARKET DEVELOPMENT

Rapidly rising urban populations, changing consumption patterns and renewed growth in per capita incomes in Zambia is creating major opportunities for local farmers by driving growth in domestic and regional market demand for food including horticultural crops (fruits and vegetables). Horticulture also provides significant value added potential through packaging, canning, slicing and dicing, and production

of juice, sauces, preserves, and inputs to other food processing activities, all of which provide important opportunity to create jobs in both urban and rural areas. Unfortunately, this sector has been neglected by government policy which continues to prioritize the maize sector which has very low potential to solve poverty issues in the country. Only a paltry 20 percent of the smallholder farmers participate in horticultural markets in Zambia despite its high poverty reduction potential

The poverty reduction potential for fruits and vegetables relative to maize is clear. A relatively market oriented smallholder in Zambia might sell 1 to 2 metric tons of maize to FRA at a price ranging from K65-K70 per 50 kg. Total gross revenue of this farmer will range from K1,300 to K2,800 (approx. US\$210 to US\$453), nearly all of it occurring immediately after harvest. The average smallholder producing tomato, on the other hand, may produce 10-15 metric tons (on less land) over several months and sell it at an average price of K2 to K3/kilogram, for a total gross value of K20,000 to K30,000 (approx. US\$3,236 to US\$4,854) -- 10- to 20 times higher than typical maize sales values.

However, in trying to exploit these opportunities, smallholder farmers confront a series of often intractable constraints: including high cost of production and marketing; the intensive knowledge requirement for horticulture production which they normally do not have; fresh produce's perishability and the lack of any cold chain; and extreme variability in prices. The horticulture subsector receives no public sector support throughout the value chain, except for isolated projects related to smallholder market linkage efforts by NGOs and other non-state actors.

3.1.1 Policy Options/Recommendations

1. Government needs to make a deliberate effort to support smallholder horticultural production and marketing through, as a first step and matter of priority, facilitation of the development of strategically located wholesale markets with appropriate hard and soft market infrastructure through private-public partnerships starting with Lusaka and the Copperbelt.
2. The horticultural wholesale section of Soweto Market which is playing a very critical role in the supply chains but faced with critical infrastructural and management problems needs to be developed at a new site with adequate allowance for heavy traffic flow, appropriate infrastructure development (basic ground paving with drainage outlets, designated in and outflows for vehicular traffic, loading and off-loading bays, storage facilities, etc. as well as management system including the participation

of only trained and certified brokers. Lessons from other countries such as South Africa and to some extent Mozambique would help in this regard.

Once this is done for Lusaka, the same can be replicated on the Copperbelt and other parts of the country. There is need to recognize the importance of improving horticultural wholesale markets as a driver to increased smallholder supply chain participation and urban supply of high quality fresh produce at competitive prices.

3.2 LIVESTOCK SECTOR DEVELOPMENT

The national total meat demand is projected to grow from 120 thousand tons (as of 2012) to over 600 thousand tons in the year 2027 and national milk consumption from 260 million tons to over 1200 million tons over the same period. But with the rapidly increasing demand, there will still be a deficit of about 320 thousand tons of meat and 760 million liters of milk (MAL et al, 2011). Meeting this rapidly increasing demand for animal-source foods is a big opportunity for smallholders to earn a better living. But both the traditional production and marketing systems need to catch up with the rapidly changing environment.

Despite the importance of livestock rearing to smallholders' livelihoods in Zambia, the majority of smallholder production and marketing remains confined to the "traditional" sector. Average ownership and marketing of livestock per household is also low. This is because of:

- a) limited disease and bio-safety management at all stages of the value chain;
- b) low input husbandry techniques, including limited adoption of animal confinement, leading to high levels of animal mortality and low productivity;
- c) Low capacity to comply with sanitary and phytosanitary regulations, leading to limited market opportunities, and;
- d) Poorly coordinated marketing systems that link farmers to urban consumer markets.

Therefore, the ability of smallholder producers to benefit from the growing demand for animal products in Zambia depends on strengthening the performance of the production and marketing system utilized by smallholder animal producers, and integrating the traditional sector with the commercial sector.

3.3 Policy Options/Recommendations

1. The government should move to finalize the livestock policy to ensure a stable and predictable policy framework is in place for the livestock sector.
2. Direct more resources to disease control through the construction of new and rehabilitation of existing community dip tanks and put a deliberate policy to encourage farmers to dip their animals. This could be done through livestock vaccination campaigns for diseases of national importance.
3. Direct more resources into effective breeding programs and rehabilitate existing breeding centres.
4. Strengthen the veterinary extension service delivery through deploying of veterinary assistants at camp level. The livestock extension should then focus on improved animal husbandry and promotion of supplementary feeding for livestock especially during lean periods
5. Promote smallholder supplementary livestock feeding and commercialization of the same.
6. Support livestock research that will develop appropriate livestock production technologies
7. Investment in livestock trading markets in production areas

3.4 FISHERIES SECTOR DEVELOPMENT

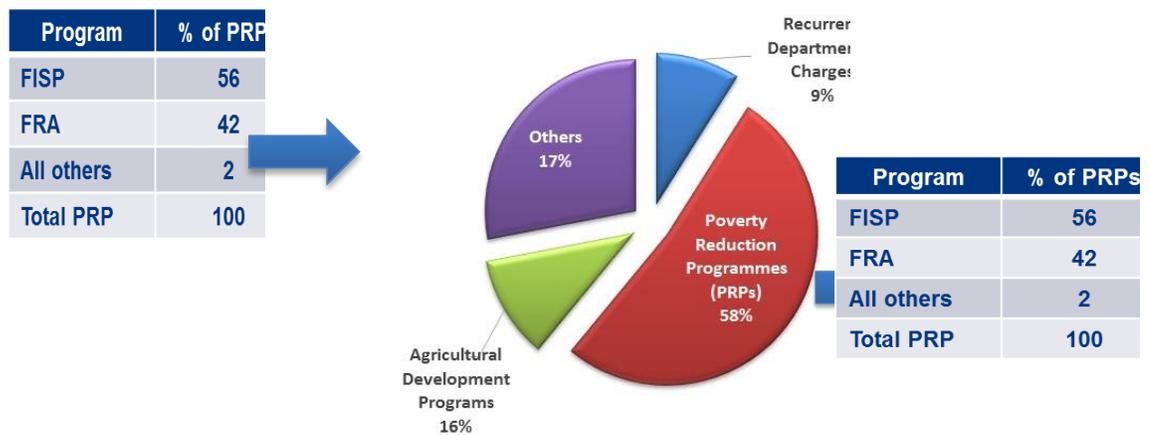
The Central Statistics Office (CSO) projects a population of 20.5 million people by the year 2025 requiring fish production of 247, 000 tons to meet the local demand. The fish deficit is estimated to escalate from the current 57,000 metric tonnes to over 171, 000 tons [excluding exports and imports] of fish by the year 2025. Given the current fish production, much effort must be explored in the fisheries sector if the supply demand gap has to be bridged. The production from capture fisheries is not likely to increase due to over fishing.

The fisheries sector is facing numerous challenges that must be addressed if the sector is to benefit the people and the economy of Zambia. Through consultation with the fisheries sector experts, some of the major challenges the sector faces include conflicting legal framework; low production and productivity; lack of fish storage facilities; weak institutional arrangements and regulatory frameworks; and weak enforcement of fisheries regulations.

3.4.1 Policy Options/Recommendations

1. Formulation of the fisheries sector policy: There is an urgent need to formulate the fisheries sector policy to guide the development of aquaculture and fisheries.
2. Institutional rearrangement: The current institutional set up and funding does not suit aquaculture development. There is need to split the Department into two, one for Capture Fisheries and the other to concentrate on Aquaculture.
3. Harmonization of the relevant legal frame work: There must be a deliberate effort to harmonize the various Acts of Parliament that relate to the fisheries sector to avoid conflicts.
4. Operationalization of the Aquaculture and Fisheries Fund: The fund will Increase fish production from aquaculture especially by small and medium scale sectors hence contributing to reducing the high rural poverty levels.

Appendix 1: 2015 Budget Allocation



List of Poverty Reduction programmes

Crop Forecasting Survey
 Technological Dev And Dissemination

Water Resource Development For Irrigation
 Smallholder Irrigation Scheme
 Rural Investment Fund
 Conservation Farming

Research Adoption And Promotion
 Animal Disease Control
 Cordon Line
 Veterinary Public Health
 Tsetse Fly And Trypanosomiasis Control
 Animal Disease Diagnostic
 Livestock Production Research

Kwando Zambezi Tsetse
 Training And Registration Of Livestock Farmers
 Livestock Outgrower Scheme
 Dairy Outgrower Scheme
 Livestock Restocking And Monitoring
 Regulation And Quality Control
 Livestock Marketing Infrastructure And Linkages
 Promotion Of Income Generating Ventures At
 Training Institutions
 Community Outreach At NRDC
 HIV/AIDS And Gender Mainstreaming At NRDC
 Fertiliser Support Programme
 Food Reserve Agency
 Rural Seeds Systems Development
 Livestock Vaccine Production

Appendix 2:

Total estimated loss to National Treasury through FRA purchases and carryover stocks 2014-2015

Assumptions	ZMK	US\$
FX Rate 2014	6.10	
FX Rate 2013	5.40	
2014 FRA Purchasing Price/50kg bag	70.00	11.48
Purchasing Price/MT	1,400.00	229.51
2013 FRA Purchasing price for carryover stock/MT @ K65/50 kg Bag	1,300.00	240.74
Logistics cost/50kg bag (transportation, loading and offloading)	10.00	1.64
Logistics cost/MT	200.00	32.79
Carryover costs/MT/Month*	48.80	8.00
Finance costs/month/MT	18.30	3.00
Storage costs/month/MT	30.50	5.00
Cost of bagging and rebagging/MT	61.00	10.00
Holding period (months) before Gazetted sales	3	
Holding period before next season	5	
Proportion of maize not in FRA bags	75%	
Losses through poor or inadequate maize storage	15%	
Maize for export in 2014 based on carryover stock	597,192	
Indicative maize export parity price, Zimbabwe 2014	1,281	210.00
Indicative maize export parity price, FRA depot price - February 20, 2015	1,464	240.00
Old Crop Discount	0%	
FRA Purchases July-October 2014 (MT)	1,031,303	

Description	Quantity (MT)	Price/Cost per unit (ZMK)	Total (ZMK)	Total US\$
1. Estimated Cost of 2013/14 Carryover Stock*				
Value based on purchase price	597,192	1,300	776,349,600	143,768,444
8 months Carry Costs (Oct '13 to May '14)	597,192	49	233,143,757	38,220,288
Additional carryover stock costs for 60% of stock (June '14 to October '14)	358,315	49	69,943,127	11,466,086
Total Cost of 2013/14 carryover stock			1,009,493,357	181,988,732
Translated Cost/MT of carryover stock as at end May 2014			1,690	305
2. Return on Export at Export Parity Prices				
Return on October 2014 Export Parity Price to Harare	597,192	1,281	765,002,952	125,410,320
Less 15% stock losses			114,750,443	18,811,548
Less old crop discount			0	0
Net value of 2013 carryover stock at export parity prices			650,252,509	106,598,772
3. Cost of new crop purchased July - October 2014				
Value based on purchase price	1,031,303	1,400	1,443,824,200	236,692,492
Logistics costs	1,031,303	200	206,260,600	33,813,213
Estimated 8 months carry costs (Oct '13 to May '14)*	1,031,303	49	50,327,586	8,250,424
Rebagging costs	1,031,303	61	47,182,112	7,734,773
Estimated total costs of new crop purchased July-October 2014			1,747,594,499	286,490,901
Translated Cost/MT as at end May 2015			1,695	278
4. Value of 2014 Crop at FRA Prices as at February 2015				
Value of maize by May 2015 based on FRA selling price	1,031,303	1,464	1,509,827,592	247,512,720
Less 15% stock Losses			226,474,139	37,126,908
Net value of 2014 crop			1,283,353,453	210,385,812
5. Summary of Costs to Treasury				
Total Cost of 2013/14 carryover stock			1,009,493,357	181,988,732
Estimated total costs of new crop purchased July-October 2014			1,747,594,499	286,490,901
Total gross Cost			2,757,087,855	468,479,634
Net value of 2013 carryover stock at export parity prices			650,252,509	106,598,772
Net value of 2014 crop at 2015 February FRA prices			1,283,353,453	210,385,812
Gross Revenue			1,933,605,962	316,984,584
Estimated Loss to the Treasury			823,481,893	151,495,050