USAID STRATEGIC ECONOMIC RESEARCH AND ANALYSIS – ZIMBABWE (SERA) PROGRAM

MAIZE PRODUCTION AND MARKETING IN ZIMBABWE: POLICIES FOR A HIGH GROWTH STRATEGY

CONTRACT NO. AID-613-C-11-00001

SEPTEMBER 2016
This report was produced by Nathan Associates Inc. for review by the United States Agency for International Development (USAID).
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A country’s policies and institutions are internal mechanisms that provide an incentive structure for economic actors to behave in certain ways. Thus, they are critical in determining economic outcomes. The exceptionally poor performance of the maize sector in Zimbabwe, relative to comparable regional countries with similar natural environments, implies the existence of problems in internal mechanisms that are working against progress and diminishing Zimbabwe’s comparative advantage relative to other countries.

Historically, Zimbabwe has been the bread basket of Southern Africa. As such, effective policy reforms to restore the country’s good performance will not only be borrowed from models and theoretical evidence from outside the country but also from best practices of the past. The main policy and institutional challenges that have adversely affected Zimbabwe’s maize sector, and its agricultural production, in general have been (1) poor adaptation to climate change, (2) land uncertainties, (3) limited support services (training, research, and extension), (4) lack of agro-ecological specialization in maize production, (5)
lack of finance, (6) use of redundant technologies, and (7) inefficient post-harvest management. With the right policy environment the opportunity exists to regain productivity in maize and throughout the agricultural sector.

Alternative strategies for a high-growth maize sector would include revisiting some of Zimbabwe’s past strategies and reforming them in such a way that desired results are achievable. In this light, the following strategic policy recommendations, based on this study, provide a roadmap to achieving high growth—albeit if the required changes are well implemented.

**Provide secure and bankable titles to all new A1 and A2 farmers.** The government of Zimbabwe should consider resolving the uneasiness of the resettled, displaced, and remaining large-scale commercial farmers by addressing the security of land tenure through the Ministry of Lands—particularly regarding A2 and A1 farming models. This resolution would affect land use regulations, valuation and compensations, dispute and conflict resolution, and management capacities. It would go a long way toward enhancing investments on land, land use, rural infrastructure development, and the sustainable management of natural resources. Furthermore, as detailed below, to attain an agrarian reform, the government should complement land reform with productivity and enhance supply and market-related interventions—through the Ministry of Agriculture, Mechanisation and Irrigation Development (MAMID), the private sector, and development agencies.

**Specialized maize production in areas of comparative advantage.** Agricultural policy should have a strong emphasis on identifying areas with comparative advantage while considering production of the various strategic crops and livestock commodities, specializing production of commodities, and facilitating exchange across its regions given the agro-ecological diversity. For instance, in line with agronomic requirements, the production of maize is best suited in natural region II that is concentrated in areas of the Mashonaland region. Thus, the country should focus its maize production resources in this region, ensuring efficient, effective production while facilitating trade within the country.

**Establish appropriate co-management structures for common property irrigation for climate resilience.** To sustain agricultural production and food security in the face of climate change in Zimbabwe, climate resilient development will be key. The government, farmers, and development agencies need to establish appropriate co-management structures for the current commonly managed irrigation infrastructure; this would ensure the rehabilitation and modernization of already established irrigation schemes that were formally privately owned and are now under common resource property. Research institutions will need to develop innovative, appropriate irrigation models suitable for smallholder farmers, such as micro-irrigation, to ensure the full use of irrigation facilities by farmers. Insurance-based social protection strategies should be explored by the private
sector as an alternative risk management option, thus, cushioning farmers against climatic disasters—particularly for a strategic food security commodity such as maize.

**Facilitate the provision of agricultural finance.** Finance is key to enabling effective demand for improved inputs that can enhance agricultural performance. Among others, these inputs may include infrastructure, machinery, fertilizer, seeds, and chemicals. Thus, to enhance the use of advanced inputs in agriculture, Zimbabwe will need to unlock finance for farmers from internal and external sources. Through its Ministry of Lands and the Bankers Association of Zimbabwe, government should increase farmers’ access to finance by facilitating the granting of bankable permits and leases, as earlier alluded.

Given the strategic importance of maize, the government should also prioritize access to subsidized finance. Preference should be granted to commercially viable maize farmers, based on farmer types and regions with comparative advantage in maize production. An alternative to alleviate shortage of credit for maize farming is through input-output market, such as processor-farmer agreements, could be instituted so that inputs are provided against future outputs at a guaranteed price. However, this can only be successful if (1) a regulatory environment exists for mutually beneficial contract farming arrangements and (2) agro-processing firms have an incentive to engage in contract farming activities through special loans and government assurance of a stable policy environment.

**Strengthen agricultural support institutions.** Agricultural training and research and extension services require critical human resources, funding for operations, and infrastructure and equipment for effective service delivery. There is a need to reform these institutions to service the agricultural sector within the emerging environment, for instance, considering the dominancy of smallholder farming sector and climate change. The coordination between institutions of training and research and extension; farmer representative bodies; and developmental agencies that are interlinked should be cemented by creating common platforms and developing information and communication strategies.

Thus, the government should provide adequate resources to improve service delivery and the performance of public support institutions. The 2003 Maputo Declaration on Agriculture and Food Security in Africa (Assembly/AU/Decl. 7(II)), which recommended a commitment to allocating at least 10 percent of the national budget to agriculture development, should be respected. Doing so would strengthen institutions and support the enhanced delivery of public service in the agriculture sector. This pledge has not been met in many years, with allocations ranging between 3.8 and 5.3 percent a year (National Budget Statement and Ministry of Finance and Economic Development Blue Books).

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1 For comparative information on African country commitment performance, visit http://www.nepad.org/foodsecurity/agriculture/about.
Strengthen farmer capacity to manage farming as a business. Traditional smallholder farmers have been oriented toward subsistence and mixed farming models that may not be appropriate for a high-growth maize production strategy. To build capacity for a commercially viable maize production, smallholder farmers and government policy makers require knowledge capacity development in good agronomic practices, economics of production, and the intensification of agriculture and maize farming as a business.

Promote agriculture mechanization. To ensure that farmers capitalize on economies of scale for commercially viable maize production, mechanization will be the best route. Recent efforts to improve farmer access to mechanization services have gone a long way toward improving agricultural productivity. Given the resource limitations, initiatives such as More Food International, a cooperative program, should be focused in areas with commercially viable entities instead of spread across the whole country. For effective use and maintenance of equipment, community-based tradesmanship training in repair and maintenance will need to target farmers and local artisans.

Reconsider genetically modified organism (GMO) technology. Zimbabwe’s GMO-free agricultural policy needs to be reviewed in the context of global biotechnology trends, the globalization of the world economies, porous border posts, and finally, the inability of the country to separate GMO and non-GMO finished products. This latter issue is posing unfair competition on local industry because Zimbabwe is promoting GMO-tolerant industries outside its borders by allowing finished products with GMO ingredients to enter the country. It is recommended that the Zimbabwean government reconsider its GMO position based on sound scientific analysis, thus ensuring the country is not penalizing itself in the process.

Reform the maize factor and product marketing strategies for effectiveness and efficiency. Market and pricing interventions, such as input subsidies, product pricing support, and trade controls, should be remolded to ensure that they are efficient, effective, and work toward the development of the sector. In this light, the following considerations are proposed:

- Targeted input subsidies through a special loan facility targeting commercially viable entities in regions with comparative advantage in maize production and
- A more liberalized maize marketing and trade policy to encourage competitiveness.

Ensure effective post-harvest management. Post-harvest food losses are a global issue of growing concern to governments, farmers, food processors and handlers, as well as consumers. These losses result in the depletion of all the resources expended for the production of food—among others, fertilizers, pesticides, and labor. There is a need for MAMID to revisit agricultural policy and provide new emphasis on post-harvest management, or in other words, a management style that will result in a new strategy for effective post-harvest management. Agricultural research institutions should research and develop innovative approaches for effective post-harvest handling such as hermetic containers and user friendly pesticides.
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<tr>
<td>AMA</td>
<td>Agricultural Marketing Authority</td>
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<tr>
<td>CAADP</td>
<td>Comprehensive African Agricultural Development Programme</td>
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<tr>
<td>COMESA</td>
<td>Common Market for Eastern and Southern Africa</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td>GMO</td>
<td>Genetically Modified Organism</td>
</tr>
<tr>
<td>ha</td>
<td>hectare</td>
</tr>
<tr>
<td>MAMID</td>
<td>Ministry of Agriculture, Mechanisation and Irrigation Development</td>
</tr>
<tr>
<td>MT</td>
<td>metric ton</td>
</tr>
<tr>
<td>SADC</td>
<td>Southern African Development Community</td>
</tr>
<tr>
<td>SGR</td>
<td>Strategic Grain Reserve</td>
</tr>
<tr>
<td>SI</td>
<td>Statutory Instrument</td>
</tr>
<tr>
<td>t</td>
<td>tonne</td>
</tr>
<tr>
<td>USD</td>
<td>U.S. dollars</td>
</tr>
<tr>
<td>Zim ACP</td>
<td>Zimbabwe Agricultural Competitiveness Programme</td>
</tr>
<tr>
<td>Zim-Asset</td>
<td>Zimbabwe Agenda for Socio-Economic Transformation</td>
</tr>
<tr>
<td>ZCFU</td>
<td>Zimbabwe Commercial Farmers Union</td>
</tr>
<tr>
<td>ZCTU</td>
<td>Zimbabwe Congress of Trade Unions</td>
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</tbody>
</table>
1.0 The Production of Maize as a Strategic Commodity

Maize is a strategic commodity in the Zimbabwean economy as a crop that ensures food security and serves as raw material for agro-industrial processes. An estimated 2.1 million metric tons (MT) of this crop is consumed annually in the country, contributing to 14 percent of the country’s agricultural gross domestic product.

Maize is a staple food crop in Zimbabwe, accounting for over 50 percent of the average calorie consumption of about 13.1 million people. In addition to its consumption as whole grain, the commodity can be processed into maize meal or, alternatively, used to make a variety of other products and by-products which include flour, oil, maputi, samp, grit (used in making snacks), and starch.

As such, maize production is highlighted for priority investment owing to its strategic role as a food security commodity. In fact, the Constitution of Zimbabwe makes provisions for food security and the corresponding right to food by directing the state to (1) encourage farmers to grow and store adequate food, (2) secure the establishment of adequate food reserves, and (3) encourage and promote adequate and proper nutrition through mass education and other appropriate means.

Over and beyond to contributing directly to human food security, maize is a main energy source in the animal feed industry. This crop comprises 47 to 75 percent of feed, supporting the annual production of 37 million broilers and 1.5 million laying birds, a 17,000 sow unit of pigs, and a dairy herd of about 23,000, among other livestock dependent on manufactured feed.

In terms of production, maize is grown by over 90 percent of the 1.3 million farming households across the country. The crop is grown on over 60 percent of the total annual cropped area, or between 80 and 90 percent of the total land area under cereal production. It consumes more than 50 percent of fertilizer and other general agricultural inputs used in the country.

Up to the year 2000, Zimbabwe was producing this crop in excess of its requirements, except for drought years. Since then, the country has been producing poor yields of only between 400,000 to 1.5 million MT or only less than 1 MT/ha.; short of its demand, this level of production has required that Zimbabwe import the deficit production to feed its population. This poor sectoral performance is mainly attributable to (1) disruptions caused by the fast track land reform program and (2) the lack of subsequent recovery calls in the form of agricultural strategies and policies to complement land reform.
Although the El Nino effect and drought-related conditions have had an impact on agricultural production, these weather-related factors are common across the region. These factors have not prevented other neighboring countries from performing relatively better in terms of agricultural performance. In fact, the region’s average maize yield is about 2.5 tons/hectare compared to Zimbabwe’s yield of less than 1 MT.

The exceptionally poor performance of Zimbabwe’s maize sector—relative to production levels in comparable countries in the region with similar natural environments—implies the existence of problems in Zimbabwe’s internal transforming structures and processes. These problems include constraining policies and institutions that work against progress in the agricultural sector and diminishing agricultural performance relative to other countries. Absent these constraints, policies and institutions provide an incentive structure that encourages economic actors to behave in certain ways. Thus, these policies and institutions are thus critical in determining economic outcomes (Carney 1998).

1.1 Introduction to the Study
The study was conducted in the context of overall economic strategy for enhancing national and household food security and nutrition as elaborated in the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zim Asset)—Zimbabwe’s economic blueprint for October 2013–December 2018. The study uses, as a basis, the draft agricultural policy document of the Ministry of Agriculture, Mechanisation and Irrigation Development (MAMID), the key elements of which have been incorporated in the thematic areas of the Zim Asset document, highlighting the need to

- Ensure adequate local production of key foods.
- Ensure accessibility to a nutritionally balanced diet for the majority of Zimbabweans.
- Link all classes of farmers into formal competitive marketing channels.
- Adopt market related price discovery and stabilization mechanisms, such as commodity exchanges and warehouse receipt systems.
- Ensure local value-addition in order to generate incomes and employment in both rural and urban areas.

1.2 Specific Research Issues
In view of the above, this study undertook an in-depth analysis of the key policy and institutional factors underlying Zimbabwe’s recent performance in maize production and marketing. To this end, this report outlines proposed alternative policies and strategies that will (1) result in a high growth trajectory for this sector and (2) ultimately address issues of poverty, food self-sufficiency, and the supply requirements of the food processing and other industries.

The focus of the study is on the following major issue areas:
• The policy, regulatory, and institutional environment constraining supply-related factors, such as inputs and irrigation, of relevance to the subsector’s efficient functioning.
• The policy, regulatory, and institutional environment guiding production and marketing in the maize subsector, analyzing whether the environment is constraining a sustained high growth of maize production.
• A clear assessment of the current agricultural support strategy for maize, analyzing whether this approach will bring about a green revolution in this sector.
• An alternative set of proposals for a high-growth production strategy for maize, along with policy and institutional reforms that will facilitate the success of this strategy.

2.0 Methodology
The study reviewed past studies and relevant documents published by organizations such as the Zimbabwe Agricultural Competitiveness Program (ZIM-ACP); United Nations Food and Agriculture Organization (FAO), including its GIEWS country briefs; the World Bank Group; and the former ECI-Africa Consulting and others—to extract relevant information on institutional and policy factors affecting maize production and marketing in Zimbabwe. The study team further consulted with key informants in the sector to include maize producer representatives (Zimbabwe Farmers Union and Zimbabwe Commercial Farmers Union), the Grain Millers Association of Zimbabwe, the Grain Marketing Board, the Grain Traders Association of Zimbabwe, and the regulatory authorities—MAMID and the Agricultural Marketing Authority (AMA). This dialog formed the basis for institutional and policy diagnosis and the development of proposals for policy and institutional reforms for the improved production and marketing of maize in Zimbabwe.

3.0 The Competitiveness of Maize Production in Zimbabwe
Ranked 51 out of 111 countries in terms of maize production volume, Zimbabwe has a total output during the 2015/2016 season of only 742,000 MT—against its national requirements of 1.8 million MT. These production volumes are much lower than those of other countries in the region, including Malawi, Mozambique, South Africa, and Zambia.

Compared to other countries in the world, Zimbabwe’s maize output is insignificant (Table 1).

Table 1: Maize Production in Zimbabwe and Beyond, 2015

<table>
<thead>
<tr>
<th></th>
<th>India</th>
<th>Malawi</th>
<th>Mozambique</th>
<th>South Africa</th>
<th>United States</th>
<th>Zambia</th>
<th>Zimbabwe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production (1,000 t)</td>
<td>23,000</td>
<td>2,200</td>
<td>1,000</td>
<td>13,000</td>
<td>366,539</td>
<td>2,900</td>
<td>742</td>
</tr>
</tbody>
</table>
Production ranking (out of 111 countries) | 8 | 29 | 47 | 11 | 1 | 24 | 67
---|---|---|---|---|---|---|---


During the 2015/16 season, Southern Africa as a whole has experienced severely suppressed seasonal rainfall attributable to the El Nino episode. But despite unfavorable weather-related factors, neighboring countries, such as Malawi, Mozambique, South Africa, and Zambia, have performed relatively better in terms of agricultural performance: in these countries, maize yield has been about 2.5 t/ha while yield levels reached a record low of 0.4 t/ha. in Zimbabwe. The country’s productivity performance, as measured in yields by t/ha, is ranked over 108 out of 111 countries in the world, while its neighbors’ relatively superior performance ranks South Africa and Zambia at 40 and 41, respectively.

Figure 1 shows maize production yields for the aforementioned countries. As can be seen, United States is in the lead in maize production with average yields of 11t/ha. and Zimbabwe producing only 0.4 t/ha.

Figure 1: Maize Yields in Selected Countries, 2015/16

The average price of maize in the Zimbabwe market is higher (see Figure 2) than in most countries in the world, attributable to government interventions in the product market. In fact, following the Statutory Instrument (SI) 122 of 2015 (April 2015), the government deregulated the marketing of maize, allowing for prices to be determined by market forces while the Grain Marketing Board continues to buy this commodity at US$390/MT. The continued need to support farmers through a higher product price is driven by low productivity and high inputs costs—and as a result, the combined effect of a subsidized price through the Board and over
dependency on foreign imports results in a higher average price of maize in Zimbabwe than in other countries.

**Figure 2: Price of Maize during 2015/16 Season in Zimbabwe and Selected Countries**  
Source: FAO GIEWS (2016).

The uncompetitive price of maize as a raw material in human and animal feed industries is a cost push factor in higher value-added industries such as the food processing and animal feed industries. As a result, the prices of finished products from maize (e.g., maize meal and animal food) and related sectors (e.g., poultry, pigs) are higher than for comparable products in the region.

Because of poor maize sector performance, the country has been increasingly relying on imports to supplement domestic production. Total maize production has declined from a peak of over 2 million MT in 1996 to 1.3 million MT in 2010, and now to 0.7 million MT in 2015—against national requirements of 1.8 million tons (MAMID 2015).
Figure 3 (below) shows long-term trends in Zimbabwe maize imports and exports from 1960 to 2014.

Figure 3: Zimbabwe Maize Import and Export Trends, Selected Years, 1960–2014
Source: U.S. Department of Agriculture.

Zimbabwe has evolved from being a net exporter of maize to being a net importer. From 1960 to 2003, the country was consistently exporting maize to other countries. However, the situation has changed from 2003 to date as Zimbabwe started importing the commodity and has over the years increased its dependence on foreign supplies. The fall in production has been attributed to a decline in area harvested and, among other factors, to declining yields following structural changes in land ownership and the impact of climate change.

Over the years, a shift has occurred in maize production from large-scale commercial farms to small-scale farmers, and crop productivity has been declining (MAMID 2016). Despite an increase in the area planted, an increasing divergence is noted between this area and the area harvested, particularly during drought periods, indicating the need for climate change mitigation measures to enhance agricultural production.

The increasing divergence between areas planted and harvested is shown in Figure 4 (below).
In general, Zimbabwe’s maize sector has been performing poorly relative to other maize-producing countries in the region and beyond. Mashingaidze (2006) noted critical factors that continue to militate against competitiveness of Zimbabwe’s maize production and challenge Zimbabwe’s ability and its inability to invest in developing a more sustainable, productivity-driven base for competitive, commercial agriculture over the long run; these factors include among others, drought, transport issues, and high input costs, particularly for seed and fertilizer.

Furthermore, losses in maize production could be reduced by a deliberate government policy to deal with all distortions, particularly in the marketing of agricultural commodities. Zimbabwe will also need to establish agricultural marketing arrangements that guarantee prompt payment for the delivery of produce. The current scenario, in which farmers experience payment delays after selling their produce to the Grain Marketing Board, particularly maize and wheat, poses a major investment risk (and transaction cost) in these subsectors. Delays in payment processing affects planning by farmers, and in effect, represents an interest-free credit to the government at the expense of the farmers. Zimbabwe has also lagged behind in technology and in its marketing strategies in the maize sector. Another policy limitation is that local farmers are being tragically out-competed by growers in other countries, such as South Africa, that have adopted GMO varieties with higher yields and low input demands.

Figure 4: Maize Production Trends and Seasonal Quality by Selected Years, 1980–2015
Source: MAMID 2016.
4.0 The Case for an Enabling Policy and Institutional Framework for Maize Production in Zimbabwe

Although climatic and other biophysical factors are important, the differences in maize production performance in Zimbabwe—versus in neighboring countries with similar climatic conditions, like Malawi, South Africa, and Zambia—indicate that other internal mechanisms have a significant role in determining agricultural performance. The country’s policies and institutions influence the behavior of economic actors, the asset base, the vulnerability context under shocks and disturbances, and ultimately livelihood outcomes (Carney 1998). Thus, this section provides an overview of maize production trends by quality of season and the related policy, institutional environment, and biophysical environment.

4.1 Maize Production and Quality of Seasons in Zimbabwe

Crop production in Zimbabwe is mainly rain-fed; hence, production is correlated with the quality of the rain season—thus, the country’s food security varies with seasonal quality. According to Mashingaidze (2006), maize production exhibits a year-to-year variation according to rainfall patterns. Each period of drought is marked by a significant decline in maize production after which production will recover in years with good rain falls.

As shown in Figure 5, the following drought seasons were associated with declines in maize production: 1982/83, 1986/87, 1992/93, 1995/96, 2002/03, 2004/05, 2007/08, 2012/13, and 2015/16.
The observed relationship between maize performance and seasonal quality clearly points to the lack of strategic planning for robust climate-resilient agricultural development for the country. Institutions and policies are important components of the operating environment (WACDEP 2013). That these are necessary to improve the adaptive capacity of stakeholders under climate risks and the volatility of maize performance in relation to the quality of the season clearly points to a lack of appropriate institutions and policies to develop robust strategies that ensure good livelihood outcomes with or without shocks and disturbances.

4.2 Zimbabwe’s Maize Production under Changing Policy and Institutional Landscape

Zimbabwe’s policy and institutional environment has evolved over time, dating back from pre- and post-Colonial times to the present. Critical policy and institutional events in relation to land, research and development, seasonal quality, and marketing are included in the following table by periods of events and a summary of maize production performance.

Table 2 outlines impact of this environment on maize production performance over selected timeframes.

Table 2: Impact of Policy and Institutional Environment on Maize Production Performance, Selected Timeframes, 1980-2015

<table>
<thead>
<tr>
<th>Period</th>
<th>Policy and Institutional Environment</th>
<th>Impact</th>
</tr>
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<tbody>
<tr>
<td>1980–90</td>
<td>Land: Land resettlement program based on willing seller/willing buyer principle with new Ministry of Lands, Resettlement and Rural Development, Donor-financed land reform, Dual agricultural systems consisting of large-scale commercial (LSC) and smallholder farmers, Multiple land tenure system, <strong>Research, extension, and development</strong>: Extension services to former marginalized areas improved, Research and development of high-yielding varieties, Further irrigation development in LSC farms and extension to smallholder farms, <strong>Seasonal quality</strong>: Two drought seasons (severe and extreme), <strong>Marketing and finance</strong>: Input subsidies for both large-and small-scale farmers, Investment in marketing infrastructure (roads, communication, energy, transport, etc.) in communal areas, Subsidized product prices</td>
<td>Drastic increase in communal and resettlement maize production as yields increase, Average national yields of 1.5 MT/ha.</td>
</tr>
</tbody>
</table>
| 1991–2000 | **Land** | Negative for smallholder agriculture  
National average yields dropping to 1.1 MT/ha. |
|---|---|---|
|  | Land resettlement program based on willing seller/willing buyer principle with new Ministry of Lands, Resettlement and Rural Development  
Ministry of Lands merged with Ministry of Agriculture (later un-merged between 2004 and 2005)  
Donor-financed land reform  
Dual agricultural systems consisting of LSC and smallholder farmers  
Multiple land tenure system  
**Research, extension, and development**  
Weak extension and research services  
Weak infrastructure in relation to demand of farmers  
**Season**  
Three drought seasons (mild and extreme)  
**Marketing and finance**  
Removal of input subsidies  
Limited financing of smallholder agriculture, particularly resettled farmers  
Access to offshore finance  
Relaxation of foreign currency controls  
Liberalized marketing of grain | |
| 2001–09 | **Land** | Recovery of smallholder agriculture, in general  
Massive decline in LSC maize production  
Average national yields 0.75t/ha. |
|  | Fast Track Land Reform program—new agrarian structure based on resettlement models A1 and A2 existing side by side with old resettlement schemes, communal areas, small-scale commercial and remaining LSC  
New farms A1 and A2 on lease agreements  
**Research, extension, and development**  
Limited infrastructure and research and extension services  
Irrigation support fund, however, all limited support in relation to demand  
**Seasons**  
Six mild droughts and one severe drought season  
**Marketing and finance**  
Regulation of grain marketing  
Reserve Bank of Zimbabwe playing a much broader role in monetary issues and broader economic development  
Productive sector financial packages to agricultural sector  
Crop packs—seed and fertilizers provided by government to communal, old and new resettlement, small-scale commercial farms | |
| 2010–15 | **Land** | Decline in maize production  
National average yields 0.7t/ha. |
|  | Land uncertainty (tenure, disputes, acquisition, administration)  
**Research, extension, and development**  
Limited infrastructure, research and extension services  
Irrigation support fund; however, all limited support in relation to demand  
**Seasons**  
Two drought seasons (severe and mild)  
**Marketing and finance**  
Input subsidies to agriculture to smallholder farmers  
Liberalized marketing of grain (2010–12, 2015)  
Regulations in maze marketing through the Grain Marketing Act (2013–14) | |
The impressive increase in maize production by communal farmers after Independence proved that given a package of prime movers, smallholders are capable of generating a positive aggregate supply response (Matondi and Munyuki-Hungwe 2006). Based on the information shown in Table 2 (above), maize production success is positively associated with factors such as the stability of land and land tenure security; LSC farming of maize; the availability of research, extension, and developmental initiatives, such as irrigation support and subsidies—over and beyond seasonal quality (discussed above). Maize yields have decreased significantly over time with decreasing support services and land reform—this decrease has occurred despite market and price interventions, such as input subsidies and price support that were meant to boost maize production.

The downward trend, over decades, in maize crop yields is shown in Figure 6.

![Figure 6: Deterioration of Maize Yields Over Decades, 1980–2015](image)

Source: MAMID 2016.

Land redistribution remains the most immediate and visible expression of the agrarian reform. But land redistribution alone does not result in agrarian reform without backup services—
especially agricultural research and extension, financial resources (credit and savings),
development of irrigation schemes, and infrastructure development (e.g., energy,
communication, transport, marketing).

### 4.3 Maize Production, Biophysical Environment, and Farming Sectors in Zimbabwe.

Zimbabwe’s agro-ecological features are defined through its five distinct agro-ecological regions,
namely natural regions I, II, III, IV, and V. These five regions cover the country’s entire
geography, and each region is suitable for specific crops and livestock production systems.
Despite the diversity of climate and soil characteristics, maize production is common across all
Zimbabwe’s agro-ecological regions and administrative provinces. It is a crop in which so much
effort has been made to enable production in otherwise unsuitable regions—that is, through
research on drought-tolerant varieties and the development of irrigation infrastructure,
enabling farmers to produce this basic commodity.

Table 3 below shows that only natural region II (with annual rainfall of 750–1,000mm/year) has
suitable agro-ecological conditions for maize production, and that natural region III (with annual
rainfall of 680–800mm/year) is marginally suitable for producing the crop.

**Table 3: Maize Production Potential in Zimbabwe’s Five Natural Agro-ecological Regions**

<table>
<thead>
<tr>
<th>Natural Region</th>
<th>Province Spread</th>
<th>Average Rainfall (mm)</th>
<th>Total Land (%)</th>
<th>Characteristics</th>
<th>Suitable Agricultural Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Manicaland</td>
<td>Greater than 1,050</td>
<td>2</td>
<td>High rainfall, specialized and diversified</td>
<td>Forestry, tea, coffee, fruit, intensive livestock</td>
</tr>
<tr>
<td>II</td>
<td>Harare, Manicaland, Mashonaland Central, Mashonaland East, Mashonaland West,</td>
<td>750–1,000</td>
<td>15</td>
<td>High rainfall</td>
<td>Maize, flue-cured tobacco, cotton, sugar beans, horticulture, intensive animal husbandry, coffee, irrigated wheat and barley, sorghum, groundnuts</td>
</tr>
<tr>
<td>III</td>
<td>Manicaland, Midlands</td>
<td>680–800</td>
<td>19</td>
<td>Periodic droughts, unreliable start of rain season, mid-term dry spells</td>
<td>Semi-intensive farming, extensive beef ranching, marginal maize, millet, sorghum</td>
</tr>
</tbody>
</table>
Regarding the crop yield performance of Zimbabwe's ten administrative provinces, relatively good potential has been noted in some areas of Mashonaland West and Mashonaland Central with average yields of above 1 t/ha. These two areas jointly contribute about 40 percent of national production. In contrast, Mashonaland East and Manicaland show fairly good potential with average yields between 0.5 MT/ha and 0.8 MT/ha.

Figure 6 (below) shows maize production performance throughout Zimbabwe's provinces by average yield.

![Map showing maize production performance](image)

**Figure 7: Provincial Maize Production Performance by Average Yield**

Source: MAMID (2014) and author moderations.
The performance in maize production also varies by farm type and production volumes. Yields are relatively high in A2 with average yield of about 2 MT/ha, followed by A1 farms yielding about 0.5 MT/ha. Other sectors (communal, Old Resettlement, Small-Scale Commercial [SSC]) have been performing poorly with yields of less than 0.5 MT/ha. Figure 7 shows yields attained by the aforementioned farming sectors during the 2012/13 and 2013/14 seasons.

Overall contribution by farming sector over years is shown in Table 4—with communal farmers contributing about 41 percent, followed by A1 with 23 percent and A2 with 16 percent, and the remainder from other sectors. Although communal areas have a greater contribution of maize to national output, performance is very poor owing to limited owing to various factors: besides labor shortages, other factors include adaptation to climate change, poor soil fertility management, and the limited use of advanced inputs, such as mechanization and agro-chemicals.

Table 4: Trends in Maize Contributions by Farming Sector by Year, 2010–2015

<table>
<thead>
<tr>
<th>Farming Sector</th>
<th>Maize Production (in MT) and Percentage Contribution by Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010/11</td>
</tr>
<tr>
<td>Communal Areas</td>
<td>627,210 (43%)</td>
</tr>
<tr>
<td>Old Resettlement</td>
<td>69,603 (5%)</td>
</tr>
<tr>
<td>Small-Scale</td>
<td>29,909 (2%)</td>
</tr>
<tr>
<td></td>
<td>Commercial (10%)</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------</td>
</tr>
<tr>
<td><strong>A1</strong></td>
<td>357,408 (24%)</td>
</tr>
<tr>
<td><strong>A2</strong></td>
<td>258,443 (20%)</td>
</tr>
<tr>
<td><strong>Large-Scale</strong></td>
<td>56,704 (4%)</td>
</tr>
<tr>
<td><strong>Peri-Urban</strong></td>
<td>31,522 (2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,451,629</td>
</tr>
</tbody>
</table>

Source: MAMID (Various Years).

Note: A1 = new resettlement; and A2 = new resettlement.

Based on this study’s observations on maize production, the impact of the biophysical environment, and the productivity of diverse farming sectors, it is evident that maize production performance follows geographical location and farmer type more than seasonal quality and policy institutional environment, as mentioned earlier. Thus, it is recommended that strategic initiatives to induce high-growth maize production be centered on a robust strategy that furthers climate-resilient development, the specialization of production in provincial areas and farming sectors with comparative advantage in producing the crop, and the improvement of support services such as research and extension. Given the agro-ecological diversity, it is possible to produce a number of agricultural commodities in the country. Most agricultural commodities in Zimbabwe (crops and livestock) are grown throughout the country in mixed farming systems. However, commodity-specific production zones would be desirable such as plantation crops that are concentrated in special production regions (e.g., sugar, tea, citrus).

Theoretical evidence of specialization and exchange on the basis of comparative advantage (as prescribed by David Ricardo in his comparative advantage theory of trade) shows why specializing regional production is the most desirable outcome. According to comparative advantage theory, given differences in the relative efficiency of the production of commodities, production decisions should be based on comparative advantage in certain cases. Thus, where specialized segments are relatively more efficient in producing a particular commodity, other segments are relatively efficient in producing other commodities—and by specializing in those, exchange is facilitated between segments. With specialization and exchange, more is produced when resources are efficiently used, and more is consumed when items are purchased at a lower than normal cost; hence, there are both production and consumption gains to specialization and trade.
But in Zimbabwe, not all agro-climatic regions are suited to maize, as alluded earlier. Thus, to achieve food self-sufficiency and food security, production should be focused on areas that have a comparative advantage in growing maize.

Table 5 shows maize production areas, outputs, and yields by province in Zimbabwe and indicates whether a given province produces a cereal surplus or deficit.

Table 5: Maize Production Potential in Zimbabwe by Province

<table>
<thead>
<tr>
<th>PROVINCE</th>
<th>Area (ha.)</th>
<th>Output (MT)</th>
<th>Yields (MT/ha.)</th>
<th>Cereal Surplus/Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manicaland</td>
<td>209,392</td>
<td>89,384</td>
<td>0.43</td>
<td>-</td>
</tr>
<tr>
<td>Mashonaland Central</td>
<td>180,652</td>
<td>190,117</td>
<td>1.05</td>
<td>+</td>
</tr>
<tr>
<td>Mashonaland East</td>
<td>186,058</td>
<td>102,978</td>
<td>0.55</td>
<td>-</td>
</tr>
<tr>
<td>Mashonaland West</td>
<td>230,880</td>
<td>215,827</td>
<td>0.93</td>
<td>+</td>
</tr>
<tr>
<td>Masvingo</td>
<td>193,680</td>
<td>27,946</td>
<td>0.14</td>
<td>-</td>
</tr>
<tr>
<td>Matabeleland North</td>
<td>128,430</td>
<td>23,532</td>
<td>0.18</td>
<td>-</td>
</tr>
<tr>
<td>Matabeleland South</td>
<td>109,968</td>
<td>12,080</td>
<td>0.11</td>
<td>-</td>
</tr>
<tr>
<td>Midlands</td>
<td>295,450</td>
<td>80,362</td>
<td>0.27</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: – = deficit; + = surplus.

Given the agro-ecological diversity of Zimbabwe, maize production performs better in natural region II, common to the Mashonaland provinces, where production and productivity is relatively high compared to other regions and there is surplus production. The current practice of promoting the production of maize all over the country, without regard for the resource base, results in wastage of valuable purchased inputs (e.g., labor, fertilizer, machinery)—and concurrently, the return on the natural resource base is seriously undermined.

Thus, agricultural policy should strongly emphasize the identification of areas with comparative advantage in producing various strategic crops and livestock commodities. This identification would be followed by specializing the production of commodities in regions with comparative advantage and facilitating exchange across these areas. If the country can embrace the concept of specialization and exchange, production and consumption gains will ensue by the efficient, effective use of resources. But the current mixed-farming systems practiced in the context of Zimbabwe’s agro-ecological diversity explains why maize production and marketing initiatives (e.g., input support and price support spread throughout the country for all 1.3 million maize farmers and on 1.5 million hectares) are not yielding much owing to inefficiencies associated with poor targeting and inadequate resources.
Instead, what is needed is the concentration of the limited resources on suitable areas. This approach would be achieved by providing full green revolution support to a few farmers on a smaller hectare in suitable regions. For instance, focusing support (private, government, and nongovernmental) on maize production to farmers in designated areas of comparative advantage in maize production will ensure Zimbabwe produces excess to feed its population, supports agro-processing, and increase exports—and ultimately, attains food security and economic stability. Other areas less suitable for maize production would specialize in commodities in which they have a comparative advantage—for instance, forestry, tea, coffee, fruits, and intensive livestock in Manicaland; beef ranching, small grains, and cotton in Midlands; and game ranching, extensive beef ranching, and small grains in the Masvingo and Matebelaland regions. Once the country embraces this agro-ecological specialization, intra-provincial trade and exchange will result in higher levels of production and consumption of all commodities.
5.0 Zimbabwe’s Current Policy and Institutional Environment
Constraining Maize Production and Marketing

5.1 Overview of Policies and Institutional Arrangements
The policies and institutional arrangements affecting maize production in Zimbabwe are contained at the national, regional, and sectorial levels given the strategic importance of maize in the agricultural sector and to the nation at large.

5.1.1 National Framework
At the national levels, the relevant policy and institutional environment frameworks are contained within Zimbabwe’s national development blueprint—Zim-Asset and the Ten-Point Plan for Economic Growth, all focusing on the agriculture and agro-processing industries as cornerstones for economic development.

The current agricultural policy framework was originally formulated in 1994 with the Zimbabwe Agricultural Policy Framework (1995 –2020), with the Comprehensive Agricultural Policy Framework (2012–32) having been drafted to replace this existing framework with the Ministry of Agriculture, Mechanisation and Irrigation Development (MAMID), the custodian of the overall policy governing agricultural production in Zimbabwe. The policy recognizes that the performance of the agricultural sector determines people’s overall living standards and the development of the economy. It aims, among other things, to stimulate growth in crop production and productivity and to enhance food security through improved technologies, better field-crop protection, and reduction in post-harvest losses.

5.1.2 Sectorial Framework
These two aforementioned frameworks are the key sectorial documents providing the institutional and policy framework for maize and other agricultural commodities. These regional, national, and sectorial policies and strategies are anchored on the need to enhance agricultural growth. Their primary focus is on food-related commodities as well as on cash crops to enhance agro-processing activities and, hence, food security and national income.

5.1.3 Regional Framework
At the regional levels, high-level commitments all have special emphasis on food security, poverty, climate actions, and the sustainable use of land—all of which are related to agriculture, including strategic commodities such as maize. These commitments include (1) the Maputo Declaration on Agriculture and Food Security of 2003, (2) COMESA’s (Common Market for Eastern and Southern Africa) CAADP roadmap (that is, the Comprehensive African Agricultural Development Programme), implemented in that same year; (3) the SADC (Southern Africa
Development Community) and COMESA Food and Nutrition Frameworks; as well as (4) the Malabo Declaration of 2014 on accelerated agricultural growth and transformation for shared prosperity and improved livelihoods, and (5) the Sustainable Development Goals.

In this context, according to the CAADP, allocating 10 percent of the national budget to agriculture is envisaged as sufficient to achieve this target—albeit through an agricultural growth rate of 6 percent. However, although Zimbabwe has endorsed the country’s aforementioned national development roadmap, the country has never committed 10 percent of its national budget to agriculture in recent years. From 2010 to 2015, the country’s budget allocation to agriculture has been consistently below the Maputo Declaration of 10 percent, instead ranging between 3.8 and 5.3 percent (National Budget Statement and Ministry of Finance and Economic Development Blue Books).

5.2 Institutions in Agriculture and Food Security

Given the cross-cutting nature of agriculture and food security, a multi-sectorial institutional approach has been adopted in Zimbabwe and the SADC region at large, involving a wide variety of government departments and non-governmental organizations in agriculture and food security. A number of ministries—Agriculture, Lands and Land Resettlement, Water Resources, Environment and Local Government, for instance—are involved in issues affecting agricultural production and food security as illustrated in Figure 8 (below).

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For the document Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods, visit http://pages.au.int/sites/default/files/Malabo%20Declaration%202014_11%2026-.pdf.
Figure 8: Zimbabwe’s Institutional Framework for Agriculture and Food Security

Work on agriculture development and food security starts, at the institutional level, at the highest office in the country—the Office of the President and the Cabinet its committees—and continues with national taskforces, parliamentary committees, technical subcommittees, provincial taskforces and committees, district committees, local authority platforms, and community-based committees. As such, the institutional framework include players from the government, the private sector, NGOs, research and academic institutions, development partners, donors, farmer and other civil society organizations. These institutions constitute the governance framework for agriculture, food and nutrition security, and climate change–related issues. As discussed earlier, the concept is not only an agricultural sector concern but also recognized at the national, regional, and international levels as stipulated in the Zim-Asset and CAADP roadmaps, in SADC and COMESA priorities and strategies, as well as in the Millennium Development Goals and the current Sustainable Development Goals.

The Ministry of Agriculture, Mechanisation and Irrigation Development (MAMID) is the arm of the Government of Zimbabwe mandated to provide technical, extension, advisory, regulatory, and administrative services to the agricultural sector to achieve food security and economic development. Its vision is for Zimbabwe to become the bread basket of the SADC and
COMESA regions. Its mission is to promote and sustain a viable agricultural sector by providing the appropriate agricultural infrastructure, mechanization, technical, administrative, and advisory services needed to optimize agricultural productivity to ensure food security.

MAMID is comprised of nine departments, six of which are technical and play a critical role in promoting and managing agricultural production in Zimbabwe: Agricultural, Technical and Extension Services (AGRITEX); Agricultural Economics and Markets; Research and Specialist Services (DR&SS); Agricultural Education and Farmer Training; Agricultural Engineering and Mechanization; Irrigation (DoIrr); and Livestock and Veterinary Services (DLVS). Numerous divisions, units, and sections fall under these departments. In addition, eleven parastatals and state enterprises are directly under MAMID oversight, all playing a pivotal role in assisting this ministry. The parastatals relevant to maize production are the Agricultural Development Bank (Agribank), the Grain Marketing Board, the Agricultural and Rural Development Authority (ARDA), the Agricultural Research Council (ARC), the African Centre for Fertilizer Development (ACFD), the Farmers Development Trust (FDT), and the Agricultural Marketing Authority (AMA).

MAMID also works in collaboration with other government ministries and departments as well as stakeholders in the agricultural sector on all matters related to agriculture, food, and nutrition security. These stakeholders include actors in the private sector, farmers’ organizations and other nongovernmental organizations, and developmental partners, including among others, the United Nations Food and Agriculture Organization (FAO), the U.K. Department for International Development (DFID), and the European Union (EU). Most of these institutions have structures at the national, provincial, district, and ward levels with some going down to the village and cell levels.

### 5.3 Maize-related Agricultural Policies and Acts

Contained within the agricultural policy framework are several policy positions and strategies relevant to maize production. These include those issues related to land, water, irrigation, subsidy, youth and gender, agricultural support services (finance, inputs, trade, research, mechanization, education and training, and marketing) and institutional (government structures, parastatals, farmer organizations).

There are a number of acts governing these strategic policy and institutional positions, and they are summarized below.

- **Agricultural Land Settlement Act (Chapter 20:01)** — provides for the lease of agricultural land by public authorities in the framework of agriculture development and the control of land use.
- **Land Acquisition Act (Chapter 20:10)** — concerns the acquisition of land for public purposes, including that for smallholder farming.
- **Zimbabwe National Water Authority Act (Chapter 20:25)** — establishes the Zimbabwe National Water Authority and it provides for its functions, including the appointment and functions of a board for the Authority, the raising of charges for the provision of water and other services by the Authority, the raising of funds to operate the Authority, and the imposition and collection of a water levy. The Act also repeals the Regional Water Authority Act (Chapter 20:16) and provides for matters connected with or incidental to the foregoing.

- **Water Act (Chapter 20:24)** — provides for the development and use of the water resources of Zimbabwe; the establishment, powers, and procedures of catchment councils and subcatchment councils; the grant of permits for the use of water; the control of the use of water when water is in short supply; the acquisition of servitudes in respect of water; the protection of the environment and the prevention and control of water pollution; the approval of combined water schemes; and matters relating to dam works. The Act also repeals the Water Act (Chapter 20:22) and provides for matters incidental to or connected with the foregoing.

- **Agricultural Finance Act (Chapter 18:02)** — provides for a company to make advances to persons engaged in agriculture and to make provision for its functions; regulates the financial affairs of the Agricultural Finance Corporation, now AGRIBANK; provides for the establishment of schemes to assist persons engaged in agriculture and for the implementation of such schemes; sets out the terms and conditions of an Agricultural Assistance Scheme, providing for assistance as previously afforded by the Agricultural Assistance Board; and provides for matters incidental to the foregoing.

- **Acquisition of Farm Equipment or Material Act (Chapter 18:23)** — regulates and controls the use of farm equipment on any agricultural land acquired for resettlement purposes under the Land Reform Programme.

- **Grain Marketing Act (Chapter 18:14)** and the associated Maize Control Act — provides for the establishment of the grain marketing board and prescribes its powers, functions, and duties. It regulates and controls the prices and marketing of certain agricultural products and their derivatives and provides for matters incidental to the foregoing.

- **Agricultural Marketing Authority Act (Chapter 18:24)** — provides for the establishment of the Agricultural Marketing Authority (AMA) to regulate, supervise, develop, and administer the marketing of agricultural products.

- **Warehouse Receipt Act (Chapter 18:25)** — provides for the storage of agricultural commodities in registered warehouses.

- **Agricultural Products Marketing Act (Chapter 18:22)** — establishes a fund for the development of the agricultural industry and provides for the following: administration and disbursement of the fund’s money; the imposition and collection of levies on producers, buyers, and processors of agricultural products; and the fixing of standards of quality and other matters relating to agricultural products produced in Zimbabwe.
• **Agricultural Research Act (Chapter 18:05)** — provides for the establishment of a council to be known as the Agricultural Research Council; the Act also provides for the functions and duties of that Council as reviewing and promoting all aspects of agricultural research in Zimbabwe and in certain circumstances carrying out agricultural research; confers powers on that Council and makes provision for the financial affairs thereof and for matters incidental to the foregoing.

• **Agricultural and Rural Development Authority Act (Chapter 18:01)** — provides for the establishment of the Agricultural and Rural Development Authority. The functions and duties of Authority are to plan, coordinate, implement, promote, and assist agricultural development in Zimbabwe; to prepare and, with the agreement of the Minister, to implement schemes to improve agriculture in any part of Zimbabwe; to plan, promote, coordinate, and carry out schemes for the development, exploitation, use, settlement, or disposition of state land specified in the Third Schedule; and any other specified business.

• **Control of Goods Act (Chapter 14:05)** — enables the President to provide for the regulation of the distribution, disposal, purchase, sale, and the wholesale and retail prices of any commodity, manufactured or otherwise, and of any animal or poultry specified by the President by order, for the control of imports into and exports from Zimbabwe. The Act also provides for other purposes incidental and supplementary to the foregoing.

• **Farmers’ Licensing and Levy Act (Chapter 18:10)** — provides for the licensing of farmers; the payment and collection of levies on certain agricultural products; and the establishment of levy accounts and the application of the money in these accounts. The Act also provides for matters incidental to or connected with the foregoing.

• **Farmers’ Stop-order Act (Chapter 18:11)** — provides for the registration by farmers of stop-orders and special stop-orders binding their crops and proceeds. The Act also provides for matters incidental to the foregoing.

• **Fertilizers, Farm Feeds and Remedies Act (Chapter 18:12)** — provides for the registration of fertilizers, farm feeds, sterilizing plants, and certain remedies; regulates and restricts the importation and sale of fertilizers, farm feeds and certain remedies, and substances of animal origin intended for the manufacture of fertilizers or farm feeds. The Act also provides for matters incidental to the foregoing.

• **Food and Food Standards Act (Chapter 15:04)** — provides for the sale, importation, and manufacture for sale of food in a pure state; prohibits the sale, importation, and manufacture for sale of food that is falsely described; and sets standards relating to food and matters incidental to the foregoing.

• **Produce Export Act (Chapter18:17)** — provides for the grading of agricultural produce and any such processed produce that is to be exported from Zimbabwe for the purpose of sale. The Act also provides for the prohibition and regulation of the methods of processing produce; the prohibition and regulation of the export of such produce; and matters incidental to the foregoing.
• **Rural District Councils Act (Chapter 29:13)** — provides for the declaration of districts and the establishment of rural district councils. The Act also provides for conferring and imposing functions upon rural district councils and for the administration of their areas as well as for matters connected with or incidental to the foregoing.

• **Labor Act (Chapter 28:01)** — declares and defines the fundamental rights of employees. The Act also gives effect to the international obligations of the Republic of Zimbabwe as a member state of the International Labor Organization and as a member of, or party to, any other international organization or agreement governing conditions of employment that Zimbabwe would have ratified. It also defines unfair labor practices; regulates conditions of employment and other related matters; provides for the control of wages and salaries; provides for the appointment and functions of workers committees; provides for the formation, registration, and functions of trade unions, employers organizations, and employment councils; regulates the negotiation, scope, and enforcement of collective bargaining agreements; provide for the establishment and functions of the Labor Court; provides for the prevention of trade disputes and unfair labor practices; regulates and controls collective job action; regulates and controls employment agencies; and provides for matters connected with or incidental to the foregoing.

Source: Law Development Commission, Ministry of Justice, Legal and Parliamentary Affairs

5.4 The Current Policy and Institutional Environment Constraining Supply-Related Factors, Production, and Marketing

A critical review of policy and institutional environment constraining the maize sector is given across the value chain from input supply to production and, finally, marketing. A summary of policy, regulatory, and institutional issues, a description of how these are constraining the maize sector, and the resulting impacts on the sector are presented in Tables 5, 6, and 7 (below).

5.4.1 Zimbabwe’s Critical Supply-Related Factors Constraining Production

Critical supply-related factors affecting maize production in Zimbabwe have been noted as land, finance, and several other constraints. Because land is the backbone of agriculture, an effective land administration system is critical to enhancing investments, land use, and agricultural productivity. Such system is also critical to promoting rural infrastructure development as well as to supporting the sustainable management of natural resources. Zimbabwe’s post–land reform era challenges will need to be solved for improved performance regarding land management in agriculture and agricultural growth.³ (For more information on land markets and tenure, see the accompanying study on Land Tenure policy for Zimbabwe).

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³ For more information on land markets and tenure, see the study on Zimbabwe’s land tenure policy.
Table 5: Input Supply Factors Constraining Zimbabwe’s Maize Sector

<table>
<thead>
<tr>
<th>Policy/Regulatory / Institutional Issue</th>
<th>Constraint</th>
<th>Sectoral Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land administration and governance</td>
<td>Zimbabwe’s post–land reform era is currently characterized by loopholes in land administration and governance processes relating to allocation, land tenure management, use regulations, valuation, information gaps, dispute/conflict resolution, and management capacities that are creating uncertainty on the basic resource in agriculture</td>
<td>Creates instability of land ownership Discourages investment on land Results in poor land management practices All of the above, contribute to low productivity</td>
</tr>
<tr>
<td>Agro-ecological specialization</td>
<td>Although maize production is recommended in natural region II with rainfall covering only 15% of Zimbabwe’s total land mass, the crop is grown all over the country even in regions that are unsuitable for maize production</td>
<td>Poor production and productivity as investment in inputs such as labor, fertilizer, machinery are put to waste in regions that are unsuitable for maize production</td>
</tr>
<tr>
<td>Agricultural finance</td>
<td>Agribank, with mandate to provide finance for eligible farmers, has liquidity problems Limited credit facilities from commercial banks Current financial disintermediation plus prevailing global economic conditions have made it difficult for banks to access funds from local market and international financial institutions, which would increase their capacity to extend funds to farmers at much lower interest rates Agricultural financing for smallholder farmers has been provided through state-subsidized input schemes that serve as limitations of administrative failures Alternative finance (in form of microfinance institutions, private commodity traders, agro-processing firms and seed houses) has been limited in maize, owing to lack of clearly defined microfinance policy and regulatory framework and nontransparency with contract Lack of collateral has also resulted in non-extension of credit to farmers</td>
<td>Limited credit lines available to agriculture, including maize sector Low input usage Low productivity</td>
</tr>
<tr>
<td>Water resources management</td>
<td>Land management and governance issues stated earlier negatively affecting large private investment, such as irrigation infrastructure on new farms. Limited resources by government to provide sustainable rehabilitation and modernization of irrigation infrastructure. Farmers post land reform (subdivision of large-scale commercial (LSC) farms into smaller holdings resulting in nobody owning or maintain the old irrigation infrastructure) not properly organized to collectively manage irrigation infrastructure under common resources. Lack of appropriate irrigation technology and models for type of farmers under land reform. Appropriate technologies for smallholder farmers such as micro-agricultural water management programs limited high rates of agricultural water that do not take into account water infrastructural development costs borne by farmers (e.g., sinking boreholes, constructing dams, reservoirs). Duplication of roles between the catchment councils and the ZINWA increasing water costs.</td>
<td>Limited area of maize under irrigation posing serious challenges of crop production (crop failure and productivity losses) under climate change.</td>
</tr>
<tr>
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</tr>
<tr>
<td>Agricultural technology</td>
<td>Success in adoption of high-yielding varieties not well complemented with other inputs. GMO technology biased toward public health concerns of consumers, without offering science-based assessments of potential benefits from the use of genetically modified products in their production process.</td>
<td>Productivity low.</td>
</tr>
</tbody>
</table>
Standards of agricultural inputs and input supply

Noncompliance to input standards owing to lack of effective implementation of the law
Capacity of a well-developed agricultural input supply (30%) has been low because finance challenges and poor investment in the sector
Noncertified input used at cost to farmers yielding poor performance
Recent years have been characterized by shortages and high cost of seeds, fertilizers, and agrochemicals

Labor

Labor laws are skewed in favor of farm workers resulting in high costs to business
Agricultural sector is experiencing reductions in productivity through AIDS-related morbidity and mortality. HIV/AIDS pandemic is also undermining the ability to produce and maintain adequate levels of nutrition and has caused a serious challenge to the economy of Zimbabwe
High cost of labor compromising competitiveness
Reduction in productivity through AIDS-related morbidity and mortality

Besides land issues, other issues affecting agricultural finance are limited credit facilities from commercial banks. The prevailing global economic conditions have made it difficult for banks to access funds from international financial institutions that would increase their capacity to extend funds to farmers at much lower interest rates. Over the past years, farmers have experienced difficulties in accessing finance. The expansion of smallholder farmers has broadened the coverage of financially excluded farming sectors. The issue of land tenure security and lack of alternative assets that could be used as collateral has also rendered credit facilities as not being accessible to the bulk of the farming community. Because of financial disintermediation and the risk level of agriculture given sectoral changes and climate change issues, interest rates have been high and short term in nature—or in other words, financing options are not appropriate and viable for agriculture. Agricultural financing for the smallholder farmers has been provided through state-subsidized input schemes, microfinance institutions, private commodity traders, agro-processing firms, and seed houses.

The management of water resources has become critical particularly post land reform with previously privately owned resources now under common resource property. There is a need to develop appropriate co-management frameworks that work well with smallholder farmers for the sustainable management and use of critical water resources for agriculture. Other
supply-related factors such as GMO technology, input standards, and labor are detailed in Table 5 (above).

5.4.2 Current Environment Constraining Production

Just after Independence in 1980, there was a quantum leap in the production of maize and other crops by smallholder farmers before the onset of the decline in production. One of the contributing factors has been extension of support services (education, research and extension) to farmers. Thus, real potential exists in reviving agricultural production to its former status by building the capacity of support services to address the issues constraining the production growth of Zimbabwe’s maize sector, outlined below.

In this light, there is an urgent need for the government of Zimbabwe to (1) revitalize, expand, and strengthen institutions; (2) strengthen linkages between the various stakeholders; (3) create and support management frameworks for the linkages; and (4) involve the private sector and donor agencies in supporting institutional coordination. Other urgencies include providing in-service training for extension agents on the use of new agricultural technologies, dissemination to farmers, and promoting and strengthening researcher-extension-farmer linkages.

Demand-driven research also offers promise for bolstering agricultural production, research linked to the needs of farmers, extension workers, and researchers. Also offering promise are linkages with regional and international research institutes and extension organizations, or in other words, linkages designed to keep abreast with regional and world technology developments. Universities, agricultural colleges, national research institutes, parastatals, private industry, and regional and international research centers were expected carry out the applied research and generate the appropriate technologies for the smallholder farmers.

Moreover, farmers will require stronger representation to facilitate the creation of an enabling environment for successful farming through the facilitation of services, farmer organization, communication, and lobbying and advocacy. Of concern is the multiplicity of farmer representative bodies in Zimbabwe, and the capacity limitations of these bodies to service the farmers. Although efforts are being made to amalgamate these bodies through a confederation of farmer’s unions, the organization is still fragmented.

In addition to the need for institutional capacity building, other factors constrain the agricultural production of maize crops. Climate change has been an emerging factor seriously threatening the existence of agriculture with sector performance closely associated with seasonal quality. In the past, irrigation development has been one effort the public and private sectors have seriously considered. But today, the irrigation infrastructure is in need of servicing—and not in a position to service the agricultural sector. This issue, coupled with
serious management issues post land reform, will need to be resolved to ensure sustained agriculture production under climate change conditions.

Table 7 (below) show some critical production factors affecting maize in Zimbabwe.

Women have consistently less access than men to land, livestock, education, financial services, extension, technology, inputs and services and to rural employment opportunities yet numbers of those dependent on agriculture and roles in agricultural activity are positively skewed toward women.

Table 7: Production Factors Constraining Zimbabwe’s Maize Sector

<table>
<thead>
<tr>
<th>Policy/Regulation/Institutional Issue</th>
<th>Constraints</th>
<th>Impact on Maize Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural education, research, and extension</td>
<td>Inadequate funding for research programs, extension and training work Aged infrastructure to support research, training and extension Training-research-extension interface that is not clearly defined to facilitate an effective and efficient information dissemination value chain Brain drain due to lack of a retention policy for professionals Inadequate extension coverage</td>
<td>Appropriate technologies lacking Productivity compromised Farmer’s capacity to improve productivity and production of agricultural of maize compromised</td>
</tr>
<tr>
<td>Agricultural mechanization</td>
<td>Inadequate financing for tillage hire services, repair and maintenance, rehabilitation and recapitalisation Shortages of spare parts, replaceable tools and accessories and adequate after-sales services on the local market Inadequate technologies on storage and processing leading to high post-harvest losses</td>
<td>Production and productivity compromised High level of post-harvest losses</td>
</tr>
</tbody>
</table>
| Climate change | Maize is a high-risk crop susceptible to drought  
Decreasing in rainfall over time  
Delayed onset of rainfall  
Shorter rainy seasons  
Mid-season dry spells  
Increased temperatures  
Adaptive capacity low | High incidence of crop failure.  
Low productivity and production |
|---|---|---|
| Parastatals | Low capacity utilization  
Dilapidated infrastructure and equipment  
Liquidity challenges  
Heavily reliant on fiscus  
Poor corporate governance | Limited strategic grain reserve  
Limited support in terms of augmented food supplies  
Delayed payments to farmers |
| Farmer organizations | Low subscriptions owing to membership losses  
Limited financial resources  
Loss of skills and manpower | Knowledge transfer limited  
Farmer voice weak and limited capacity to creating a conducive policy environment |
| Gender imbalances in agriculture | Women have limited access to basic agricultural resources (land, livestock, education, financial services, extension, technology, inputs and services and to rural employment opportunities)  
Information about markets and strategies to penetrate those markets on a sustainable basis is a big challenge for women. Women remain largely excluded from the decision-making processes within the public and private spheres, posing a major challenge for them to participate in the national development process | Production and productivity compromised |

5.4.3 Current Environment Constraining Marketing of Maize Production
The period 2000–09 was characterized by major structural changes in agriculture setup, such as land reform, natural disasters, political crisis, and economic meltdown. In an effort to ensure food security and price stabilization under these difficult circumstances, the government applied a series of inconsistent market and price interventions. In 2001 market interventions and price control measures were re-introduced (under the Grain Marketing Notice Statutory Instrument
[SI] number 235A of July 16, 2001, and SI 387 in December 2001). Maize and wheat became controlled products, and farmers were ordered to deliver maize to the Grain Marketing Board within 14 days after harvest, marking the end of private grain trade and the Zimbabwe Agricultural Commodity Exchange (ZIMACE) and the dissolution of standard-grading systems. After 2002, owing to drought and other difficult economic circumstances, the government allowed large millers to import maize through import licenses as a measure to ensure food security. These import licenses were issued under a memorandum of understanding with the Ministry of Agriculture, featuring a quota and special pricing conditions. Following subsequent economic difficulties and droughts, other private millers were also allowed to import maize through an import permit system. The persistent challenges of hyperinflation in the economy culminated in the introduction of a multiple currency system in early 2009. This policy regime saw an end to the Board's monopoly in the market; a free market now exists with competition among all players. The import license system was still operational, and it required that those willing to import the commodity should apply for a license.

In 2010, the previously abandoned concept of instituting the Agricultural Marketing Authority (AMA) was reintroduced through an act of Parliament (Chapter 8:24) to add to the extensive framework of regulatory bodies designed to support the efficient production and marketing of agricultural commodities. In 2012 and 2013, MAMID through the AMA and the Grain Marketing Board set floor prices that were higher than prevailing regional prices. In addition, AMA SI 147 of 2012 and SI 140 of 2013 required the registration and payment of significant fees for buyers of grain products through a multiple stop and payment import permit system that adversely affected the participation of the private sector in grain marketing.

In addition, on August 8, 2014, the Ministry of Agriculture, Mechanisation and Irrigation Development (MAMID), through the AMA, gazetted the AMA (Minimum Grain Producers Prices) Regulations 2014 also referred to as SI 122 of 2014. The SI fixed the minimum procurement price of maize at $390/MT—a price that was higher than in any other comparable maize pricing system in the world. To achieve SI 122’s objective, MAMID also placed into effect measures to restrict or ban the import of maize meal and maize grain from Malawi, South Africa, and Zambia (with the ban lifted albeit temporarily in January 2015). These neighboring countries have surplus grain available for export to Zimbabwe at landed prices, ranging from US$265 to $310/MT. The justification given was to stabilize food prices and ensure that farmers receive remunerative prices for their produce.

Despite all these efforts, maize production has been declining, and noncompetitive pricing has threatened industry viability. In turn, these developments have resulted in unemployment and low incomes for those in the agricultural sector and the economy at large. During the 2015/16 season, a two-tier marketing channel emerged with the Grain Marketing Board mandated to (1) set prices to operate as floor and ceiling prices (stabilization) and (2) procure produce at floor
prices for strategic grain reserve (SGR) purposes. In this scenario, private millers, traders, and farmers, on the other end, are allowed to trade freely, while imports and exports are regulated through a multiple-stop permit system.

Because of the GMO policy that the country has embraced, importation of raw grain is strictly prohibited with allowance given for imports of processed grain. This policy stance tends to support GMO friendly agro-processing sectors outside the country, while taxing local agro-processing industries in the economy by using costly non-GMO raw materials.4

A summary of constraining marketing and trade issues is shown in Table 8 (below).

Table 8: Marketing and Trade Factors Constraining Maize Sector

<table>
<thead>
<tr>
<th>Policy/Regulatory/Institutional Issue</th>
<th>Constraint</th>
<th>Impact on Maize Sector</th>
</tr>
</thead>
</table>
| Maize trade (import/export licensing and bans) | Unstable operating environment to changing trade policies  
Lack of competitiveness  
Multiplicity of authorizing bodies  
Unfair competition from GMO friendly agro-processing sectors | Maize agro-processing sector adversely affected  
High cost of regulatory compliance, propelling illicit transactions  
Limited value addition |
| Marketing pricing | Variations in pricing policy from season to season  
Delayed payment by Grain Marketing Board | Difficult planning  
High market costs |
| Marketing infrastructure | Poor roads and infrastructure to transport produce to markets | High market costs |
| Market information | Market participants lack information | High market costs |
| Post-harvest management | Lack of effective technologies  
Policy biased toward crop production than post harvesting | High levels of post-harvest losses |

Thus, the trend in grain marketing and pricing policy has been that during each agricultural marketing season, Zimbabwe’s grain industry has faced challenges regarding the appropriate grain pricing, marketing arrangements, and burdensome procedures and compliance costs that have worked against the sector. The impact of such ad hoc heavy government intervention in agricultural markets has caused instability and uncertainty in the sector—such that doing

4 For more information on GMOs, see the GMO policy study entitled “Genetically Modified Varieties: Policies and Regulations for Enhanced Crop and Livestock production in Zimbabwe”
business has been difficult and competitiveness compromised. Besides an uncertain, restrictive marketing environment, poor marketing infrastructure, information asymmetry, and post–harvest management losses have also been adversely affecting the maize marketing sector. As a consequence, these factors are posing issues on the roles and effectiveness of several regulatory organs that support the sector. The combined effects of maize marketing, pricing policies, and institutional factors have generally resulted in stagnation in both maize growth and agricultural growth.
6.0 The Current Agricultural Support Strategy for Maize: Prospects for a Green Revolution in the Sector

The government, private sector, and developmental agencies in Zimbabwe have been effecting several strategies to induce a high-growth pathway in the maize sector—a pathway to ensure food security, personal income growth, and the general well-being of the nation. A critical review of strategies that have been implemented is discussed below to provide insights for future development. These strategies include land reform, provision of input subsidies, agricultural financing, mechanization, irrigation, conservation agriculture, product market strategies, food relief programs, and agricultural training, research, and extension.

6.1 Land Reform

Land reform, which emphasized land acquisition and redistribution as a way of providing previously disadvantaged smallholder farmers with improving access to land, has been a key support strategy for maize, a crop that accounts for over 50 percent of Zimbabwe’s cultivated land during each season. This redistribution of prime land to smallholder farmers, who were previously disadvantaged, has been a positive move for the maize sector, given that the crop is traditionally grown by smallholder farmers.

Because agriculture is the backbone of the Zimbabwean economy, the main goal of land reform was to promote agriculture as a land-based economic activity again for broad-based economic development. Rukuni (2006) added land reform as the sixth prime mover of agricultural development by improving access to smallholder farmers. The author highlighted the need to address outstanding issues on land tenure security as well as an effective agrarian reform that is not only land-based but well packaged with other complementary inputs. Given the new agrarian structure, the design of policies and strategies for sustainable agrarian development, food security, and social protection is a critical gap that will need to be addressed to ensure that agriculture develops post land reform.

The effective use of land hinges on sound land governance and on administration services that enhance investments, which not only increase land use, agricultural productivity, and land values but also promote land rural infrastructure development as well as support the sustainable management of land and natural resources (Williamson et al 2010). As shown above in Figure 5, maize production has not been following a positive pathway post–land reform despite expansion in a smallholder agricultural base. Limitations in social services (roads, schools, water sanitation, clinics, etc.) plus agricultural resources challenges (irrigation, machinery, inputs, technology, extension, finance, etc.) that have not been remodelled to suit the new agrarian structure have been noted as constraining production post–land reform. Furthermore,
limitations in land governance and administration have been hindering progress in agriculture in general—that is, limitations such as management capacity, allocation, land tenure management, use regulations, valuation, information gaps, and dispute or conflict resolution.\(^5\)

### 6.2 Input Subsidies

The Zimbabwean government’s provision of input subsidies on fertilizers and seeds for maize has been one important support strategy in ensuring food security, farm incomes, and the supply of raw materials to the manufacturing industry for value addition. The issue of input subsidies is not unique to Zimbabwe; rather, it has been applied world over in China, the European Union, Malawi, the United States, and Zambia to name a few countries. Zimbabwe has embraced the concept of input subsidies for strategic commodities such as maize to promote production for food security and improve farmer incomes. The input subsidies would either take the form of free inputs or subsidized prices. The free inputs support programs normally targeted to smallholder farmers in communal, A1, and Old Resettlement areas irrespective of agro-ecological regions; at the same time, commercial farmers (A2, LSC, and SSC) in some cases (i.e., the 2010-11 seasons) received inputs of seeds and fertilizers with subsidized prices. The total support availed to all maize farmers has generally been increasing from US$60 million in 2010 to $US153 million in 2014 (MAMID various years). The net positive transfer to farmers implied a huge incentive for farmers to produce maize. However, records on production trends from 2009 to date showed that the total area under maize cultivation has remained fairly high, averaging 1.5 million hectares.

Despite the input subsidies, the national average maize yield has been low with average yields of below 1 MT/ha for most of the years—despite the use of high-yielding improved varieties with potential of over 10 MT/ha. and the increasing support of maize price and input subsidies. The resulting effect is a mismatch between the level of support, productivity, and production in the maize sector (as discussed above in Figure 5). It can be concluded that input subsidies have failed to induce any meaningful gains in maize production. Given the diversity in farmers and the agro-potential of maize production in diverse areas of the country, the inputs subsidies ought to be appropriately targeted to deliver best results.

But poor targeting has been noted as propelling the diversion of inputs into parallel markets in one USAID (2015) study. This study further noted weaknesses in administration of input subsidies, such as delays in distribution of subsidized inputs and inadequacy of input packages, that rendered the program less effective. The government’s involvement in input distribution through the parastatal Grain Marketing Board has effectively crowded out private dealer networks and hindered them from receiving an adequate supply of inputs. Further criticism of input subsidies has been that operating inputs alone—without complementary support services

\(^5\) For more information on land and tenure, see study on “Land Tenure Policy in Zimbabwe".
such as farmer training, farm mechanization, and irrigation development—cannot produce desired results.

### 6.3 Agricultural Training, Research, and Extension Services

Agricultural, Technical and Extension Services (AGRITEX); Research and Specialist Services (DR&SS); and Agricultural Education and Farmer Training are government departments under the Ministry of Agriculture, Mechanisation and Irrigation Development (MAMID) with responsibility for providing agricultural training, research, and extension services to the farming community as a public service. Agricultural education and training stimulates knowledge-based agricultural growth strategies and poverty reduction by capacitating research, extension, and advisory services with a competent human resource base that is capable of dealing with challenges and needs in present-day agriculture. In contrast, agricultural research is a means for enhancing efficiency of agricultural productivity, production, and agricultural development; this is accomplished by generating appropriate agricultural technologies, regulatory, and specialist services that improve agriculture production. The knowledge generated from agricultural education, training, and research is cascaded to farmers through agricultural extension services. As a whole, these aforementioned activities increase agricultural productivity and, ultimately, the production of agricultural commodities.

The government has been making efforts since Independence in 1980 to extend agricultural training, research, and extension services to previously disadvantaged smallholder farming sectors. Rukuni (1994) noted that the technological needs of smallholder farmers and the delivery system were largely neglected during pre-Colonial periods. AGRITEX was thus formed in 1981 to redress past inadequacies and to serve resettlement areas that were being established. However, although the land reform program has seen a more significant increase in smallholder farmers, government support to training, research, and extension has not been keeping pace with demand. In fact, there has been a noted decline of the public research system owing to a combination of financial cutbacks and loss of staff (Mushunje 2005).

Agricultural production and productivity have been negatively affected by limited extension services. With an 1:300-400 extension worker-to-farmer ratio, government has found it difficult to extend services to newly resettled farms because of resource limits. In agricultural education and training, resource challenges (material, human, and infrastructure) have been hampering service delivery with training curriculums. Thus, Zimbabwe has failed to keep pace with emerging demands, such as climate change, conservation agriculture, ICT, and so forth, thus yielding human capital with limited competencies.

Agricultural training, research, and extension efforts by government have been complemented by both private sector and development agency initiative. The European Union; agencies such as UNFAO, USAID, and DFID, among others; and NGOs such as CIMMYT (International Maize
and Wheat Improvement Center) offer services to farmers. In collaboration with universities, CIMMYT has been providing research and generating new knowledge to improve maize production. Zimbabwe has a record in which research and development efforts have been championed by the multiplicity of stakeholders to deliver improved seed to farmers. The seed industry has well-established stakeholders—ranging from government (AGRITEX, Department of Research and Specialist Services), to research institutions (CIMMYT), and to the private sector (Seed Co Limited, PANNAR SEED)—in seed breeding and in production and extension that work together to provide seed services to farmers. Today, over 30 varieties of seed are produced to suit a diversity of farmer circumstances, and over 90 percent of the farming community use improved seed.

The Drought Tolerant Maize for Africa Project—Additional Resources Offer Promise to Boost Maize Production in Zimbabwe

The Drought Tolerant Maize for Africa Project, coordinated by CIMMYT, was launched in 2006 to mitigate drought and other constraints to maize production in Zimbabwe, among other sub-Saharan African countries. The project has developed and distributed drought-tolerant varieties and promoted technologies to boost maize yield among smallholder farmers. The project has managed to release three open-pollinated varieties and seven hybrid seeds in Zimbabwe as of July 2012 (Abate et al. 2012). Zimbabwe has not fully exploited its own success story in seed research, education, and extension owing to lack of complementary inputs (e.g., fertilizers, machinery, water, human capital) that are needed to realize the full benefits of improved varieties. Training, research, and extension linkages are weak, thus diluting the benefits of investment in any one of these areas.

6.4 Agricultural Finance as Roadmap to Economic Development

Zimbabwe recognizes the importance of financing agriculture for economic development as articulated in its agricultural policy and the CAADP roadmap. The country’s emphasis on agricultural finance is seen in the Agricultural Finance Act which saw the establishment of the Agricultural Finance Cooperation (now AGRIBANK).

Although Zimbabwe has established appropriate institutions by parliamentary decree, and endorsed high-profile commitments to financing agriculture (e.g., the aforementioned program to facilitate the provision of finance to agriculture, including maize production), the provision of finance to farmers and agribusiness has declined during the recent past. Due to low availability of funds, lack of collateral security, high cost of lending for farmers and inaccessible international lines of credit. The Maputo Declaration of 10% of budget allocation to agriculture has not been met in many years instead allocations to agriculture have been below 4% in most years, indicating lack of commitment by government to endorsed positions.
The main challenge facing agricultural finance is limited credit facilities from commercial banks. The prevailing global economic conditions have made it difficult for banks to access funds from international financial institutions, which would increase their capacity to extend funds to farmers at much lower interest rates. Other reasons for the declining provision of finance to farmers and agribusiness include the low availability of funds, high cost of lending for farmers, inaccessible international lines of credit, and lack of collateral security.

In fact, the lack of collateral has also resulted in the non-extension of credit to farmers. Former large-scale commercial landowners can easily secure credit from the banks by using their land assets as collateral. On the other hand, the smallholder farmers cannot get credit from banks because they have few assets to use as collateral. Financial institutions are less likely to give credit to smallholder farmers, owing to inadequate collateral and high administrative and transaction costs compared to loan size.

Furthermore, commercial banks as well as Agribank are located in urban areas and not involved in rural finance. Smallholder farmers lack both the information and resources to access credit. According to Mushunje (2005), most smallholder farmers do not seek formal credit because they lack profitable investment opportunities. There is a need for the provision of bankable permits and leases to enable farmers to access finance. The development of a clearly defined policy and regulatory framework for microfinance and contract farming can also go a long way toward mobilizing alternative sources of funding for maize sector and agriculture at large.

### 6.5 Contract Farming

Contract farming has the potential to alleviate the shortage of credit through the input-output market linked to processor-farmer agreements, where inputs are provided against future output at a guaranteed price (MAMID 2012). However, the facts on the ground are that the engagement of private contractors in input support and financing agriculture is only about 1 percent (ZimVAC 2014), indicating limited engagement in financing agriculture through contract farming. In Zimbabwe, contract farming has been viewed as a way of improving farmers’ access to production finance and services as well as linking farmers to markets. Where such arrangements have been successful, there has been a marked increase in the production of selected crops and livestock, for instance, in tobacco and poultry.

However, many challenges have been cited by both contractors and farmers, emanating from (1) end-of-season disputes between contractors and farmers over selling prices, stemming from unbalanced contractual terms; (2) ineffective legal and regulatory framework for contract farming activities; (3) poor enforcement of contract farming agreements, owing to weak institutional and regulatory frameworks; (4) absence of a comprehensive strategic framework to guide contract farming; (5) limited access to finance by farmers to pay for inputs; (6) lack of liquidity in the banking sector, limiting investment in the agricultural sector; and (7) perceived
high risk of investment in the agricultural sector and government intervention ex-post setting prices that violate the pre-agreed contractual arrangements. An example is the setting of a minimum price of US$390/MT for maize through SI 122 of the 2014 AMA regulations. The SI was not respective of contractual agreements that value chain players may have entered into before the instrument was implemented, thus creating conflicts and misunderstandings in maize marketing. Addressing these policy and regulatory issues can go a long way toward facilitating finance in maize production through contract farming.

6.6 Agricultural Mechanisation Programme

The issue of agriculture mechanization is strongly emphasized by the government of Zimbabwe through MAMID. The ministry houses the department of Agricultural Engineering and Mechanisation to champion the mechanization of agriculture to improve productivity. From 2004 to 2007, government coordinated the importation of tractors and other equipment, through MAMID, in support of the Agricultural Mechanisation Programme. Farm equipment valued at about US$97 million, secured from Brazil, is expected to boost national food production. Among the state-of-the-art equipment were 450 rom discs, 218 plough discs, 310 planters, 100 fertilizer spreaders, 6,650 knapsack sprayers; also included were irrigation machinery such as 96 hose reels, 106 pump stations, 37 center pivots, and 473 horsepower tractors. All of the country’s 10 provinces have already benefited from this scheme.

Current efforts to mechanize agriculture are hampered, however, by (1) inadequate financing for tillage hire services, repair and maintenance, rehabilitation, and recapitalisation; (2) shortages of spare parts, replaceable tools, and accessories and adequate after-sales services on the local market; and (3) inadequate technologies on storage and processing leading to high post-harvest losses. With these limitations, there is a need to focus efforts on productive sectors that can easily regenerate the value of mechanization assets instead of on the distribution to all the areas in the country.

6.7 Irrigation Development

In Zimbabwe, irrigation is of importance to sustainable agricultural production and food security in the face of climate change. Tangible benefits from irrigation development will be obtained if improvements in irrigation investment go hand in hand with improvement in water management, production practices, and the adoption of new technologies—particularly under the new agrarian structure. The government of Zimbabwe is also committed to irrigation development through MAMID, which houses the Irrigation Development Division to champion the country’s irrigation concerns.

The climate response strategy under the Ministry of Environment, Water and Climate also recognized the need for irrigation development for future challenges to agriculture under climate change. In fact, the nonavailability of water in Zimbabwe is the most limiting factor to
agricultural production (Manzungu 2003). The estimated size of irrigable area in Zimbabwe is 550,000 hectares, of which 120,000 hectares are functional (FAO 2000). The predominance of rain-fed crop production exposes the country to the adverse effects of climate. In this context, there is evidence of the synergies between maize performance and quality of the season (Figure 5), as discussed above.

From 2006 to 2010, the European Union has provided substantial funding (about 8.4 million euros) for crop production intensification through irrigation to compliment the Zimbabwe government’s efforts (Bvudzijena 2009). As discussed in the previous section, a large number of ongoing government irrigation development projects are not progressing well owing to the lack of funding. Attracting more funding from more international development partners would greatly improve implementation progress and enhance agricultural productivity especially in the smallholder areas. Moyo and Mikhezi (2012) argued that irrigation development should focus on the rehabilitation of existing irrigation schemes and on the adaptation or replacement of the old irrigation machinery and equipment. This refocusing would serve smaller scale farms and result in the development of idle irrigation schemes and dams. In addition, micro irrigation was found to have a significant impact on maize yields in the smallholder irrigation scheme (Musara 2009).

6.8 Conservation Agriculture Strategy

Conservation agriculture is a sustainable agricultural technology that increases crop productivity and preserves the environment. Through the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Mazvimavi et al. (2013) conducted researched on this technology, observing that it mainly consists of three principles (1) minimum soil disturbance, (2) legume-based cropping, and (3) the use of organic mulch, which improves infiltration, reduces evaporation and soil erosion, and builds organic soil content. It has been noted that smallholders practicing some form of this new technology in Zimbabwe increased from 5,000 in 2005 to more than 150,000 in 2011—with cereal yields, amongst them maize also increasing (Mazvimavi 2013).

The conservation agriculture technique has been donor-driven and promoted by other developmental partners, such as FAO and the European Union among others. However, it has not been fully embraced by all stakeholders owing to the technique’s intensive labor demands and the lack of mechanized technologies to allow for large-scale production with this technology.

In 2010, a conservation agriculture strategy for 2010–15 was developed through Zimbabwe’s Conservation Agriculture Task Force in consultation with other stakeholders (WUA 2015).

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6 For more information on irrigation, see study on irrigation policy.
6.9 **Product Marketing, Trade, and Pricing Strategies**

Maize is one agricultural commodity that has attracted numerous policy interventions owing to its strategic importance to the economy. Besides the production policies indicated earlier, the government of Zimbabwe has always maintained its special interests in the marketing of the grain sub-sector as a way to safeguard national objectives of food security, improved farmer income, and value addition. MAMID’s Department of Economics and Markets, the AMA, and the Grain Marketing Board are strategic institutions attached to the MAMID whose mandate is to facilitate the critical grain marketing functions of selected agricultural commodities including maize.

The Grain Marketing Board, the country’s parastatal in grain trade and marketing, was established under the Maize Control Act of 1931. The mission of the GMB is to ensure food security at the household level through agricultural production support, marketing, logistics, and value addition. Its basic responsibilities are to provide local farmers with a guaranteed outlet for their excess controlled products and to ensure the availability of adequate supplies for local demand either from internal production or from imports. The act of accumulating cereal (maize) has been in place to ensure buffer stock for price stability and to provide a social safety net for vulnerable households and emergency relief stock in times of need.

The control on grain marketing was reduced following the Economic Structural Adjustment Programme and grain market liberalization, which came to being in the 1990s. A two-tier marketing channel emerged by 1996 with Grain Marketing Board mandated to (1) set prices to operate as floor and ceiling prices (stabilization), and (2) procure produce at floor prices for strategic grain reserve (SGR) purposes. The Board was also to serve as the sole importer and exporter, although private millers, traders, and farmers were allowed to trade freely. In 1994, the Zimbabwe Agricultural Commodity Exchange (ZIMACE) was formed; it was the hallmark for a liberalized maize marketing system with private players with the Board effectively competing on the market. Market liberalization was blamed for the noted increase in maize price and its products; for instance, the price of maize meal rose by 21 percent in 1998, a situation that triggered food riots, prompting the government to reintroduce price controls on maize meal in 1998 (Kapuya 2010).

The period 2000–09 was characterized by major changes in agriculture such as the land reform, natural disasters, political crisis, and economic meltdown. In an effort to ensure food security

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7 A *controlled product* is an agricultural product declared by the Minister of Agriculture as controlled in terms of the Grain Marketing Act, with maize such a product. Among other mandates, the Board is expected to (1) buy and sell any controlled product that is delivered to or acquired by it; (2) provide storage, handling, and processing facilities; (3) maintain Strategic Grain Reserves for Zimbabwe in line with government policy; (4) import and export agricultural products as it may consider necessary; and (5) establish more depots to stimulate agricultural products, particularly in the production of small grains, and to provide proximity to stakeholders through establishment.
and price stabilization under these difficult circumstances, the government applied a series of inconsistent market and price interventions. In 2001 market interventions and price control measures were introduced (under the Grain Marketing Notice Statutory Instrument (SI) number 235A of July 16, 2001, and SI 387 in December 2001). Maize and wheat became controlled products, and farmers were ordered to deliver maize to the Board within 14 days after harvest, marking the end of private grain trade and the Zimbabwe Agricultural Commodity Exchange (ZIMACE) and the dissolution of standard grading systems.

In 2012 and 2013, floor pricing and stringent registration processes for grain buyers were set, and in 2014, a minimum grain producers price regulation was set at US$390/MT paired with import ban. The justification given for this has been to stabilize food prices and to ensure that farmers receive remunerative prices for their produce. Currently, following the 2015/16 drought season, the Grain Marketing Board is buying at a government price of US$390/MT, while private millers may buy at a market price as determined by supply and demand. Moreover, import bans have been lifted, and both the government and private sector are importing maize from Brazil, Zambia, and other countries to augment domestic supplies.

Thus, the trend in grain marketing and pricing policy has been ad hoc, characterized by inconsistent changes in grain trade and pricing positions that have created lots of uncertainty in the grain business. However, despite continued market support, production and productivity remained low, posing questions on the effectiveness of such polices. On the issue of price support, a major concern has been poor targeting of support interventions, the appropriateness of such a policy, and delayed payments by the Board. Furthermore, high market prices through government minimum grain prices, above the competitive benchmarks, implied a cost push for grain processors that will be pushed onto consumer products as processors strive to maintain viability. Over the years, the government has had to incur huge expenditure bills on price support. Most of this has been financed through treasury bills, thus contributing to the liquidity crisis. The marketing trade and pricing strategies effected in the past have created a huge fiscal burden; they have also been ineffective in supporting farmer’s incomes and worked against industry viability and the country’s employment objectives.

Zimbabwe has a longstanding cautious policy against genetically modified (GM) food on the grounds of human (and livestock) safety and the potential threat that GM crop contamination could pose for the local environment. This policy position is of concern to the public particularly because no scientific evidence exists that GMOs are harmful to humans, while evidence exists that producers of GMO benefit from cost advantages and productivity gains associated with the technology.\(^8\)

\(^8\) For more information, see the GMO policy study.
6.10 Food Relief Programme

The supply of maize for household consumption to the economy of Zimbabwe is attained through alternative mechanisms. These mechanisms are own production as well as procurement from the market and through donations from various humanitarian sources. These sources include the government and food aid agencies, including the United Nations System (UNAIDS, UNDP, UNFPA, UNICEF, WFP, and WHO), in collaboration with nongovernmental organizations and the Southern African Development Community.

Food aid agencies contribute to the supply of food maize to vulnerable groups especially during critical times such as droughts and seasonal deficits. Over the years, for instance between 2003 and 2009, food aid agencies have managed to bring in maize stock for humanitarian needs, varying between 73,000 MT and 327,000 MT (Kapuya 2010). Also during such critical times, the government provides humanitarian food aid to the general population or some special groups through the Grain Marketing Board or its social welfare departments. The government-funded stockholding have been in place to ensure buffer stock for price stability, social safety net for vulnerable households, and emergency relief stock in times of need.

However, owing to financial and other challenges faced by the GMB in executing its mandate, Zimbabwe has not been able to harness enough reserves to cushion itself from unfavorable seasons. Crisis management has been the order of the day with the government reacting to food shortages within the season of deficit. Although the intention of food aid is to save lives at critical times of shortages, it can also have adverse effects on agriculture, agro-processing, and other related nonagricultural sectors such as health. There are long-term psychological effects of food aid like the dependency syndrome and laziness among producers that work against self-sufficiency, poverty eradication, and economic growth. Food aid, furthermore, crowds out domestic markets and depresses the prices of food products, thus creating a disincentive to produce.

7.0 The Alternative Proposals for a High-Growth Maize Production Strategy in Zimbabwe

7.1 Context for Reform

This review of maize production policies, strategies, and institutional structures identified policy and institutional environmental factors and critically discussed how these have supported and constrained the sustained high growth of maize production. Strategies aligned to the policy and institutional framework have been implemented in the past in an effort to ensure sustained maize production for food security; these strategies have included land reform, input subsidies, agriculture education, research and extension, agricultural finance, contract farming, mechanization, irrigation development, conservation agriculture, product market support
programs, and food relief. However, despite all these efforts, the maize subsector is still faces the challenge of low maize production and competitive positioning, resulting from low productivity compared to its neighbors with similar climatic and biophysical factors.

While climatic and other biophysical factors are important, the noted differences in production and productivity outcomes in Zimbabwe versus its neighboring countries provides evidence that the country’s maize sector has the potential to boost maize production and productivity through appropriate transforming structures and processes (regulations, policies, and institutions) that would induce positive livelihood outcomes from its maize sector. There is considerable opportunity to accomplish this given the strength of existing, established institutions (education, research, extension, marketing, finance, governance, etc.) and policy environment that may need to be tailored to adapt to the emerging climate issues and to the new agrarian structure post land reform. This will require appropriate land, finance, support services, human capital, irrigation, mechanization, technological, marketing and post-harvest management reforms that will signal positive incentives for enhanced local production, export competitiveness, and food security in the country.

In this light, we propose below alternative policy, institutional, and strategy reforms that have been derived from past experiences, expert opinion, and experiences from other countries with similar circumstances such as Zimbabwe.

**7.2 Recommendations**

Based on the preceding findings, we provide the following policy recommendations:
1. Provide secure and bankable titles to all new A1 and A2 farmers

Rationalization of the land reform specifically on land tenure issues and conflict resolution will also go a long way toward restoring domestic and foreign investor confidence in land and improving access to finance. Certain factors will need to be considered to secure farmers on the land, which is a basic resource in agriculture at–large, including maize production, as follows: (1) Finalizing the legal transfer of land to deal with uneasiness for the resettled, displaced, and remaining large-scale commercial farmers; (2) resolving the issue of security of land tenure, particularly on A1 and A2 farming models management; (3) use regulations; (4) valuation; (5) dispute and conflict resolution; and (6) management capacities (World Bank 2004).

In fact, Rukuni (2006) noted the need to revisit the issue of agrarian reform and questions of tenure security as outstanding but key drivers of change. There is a need for government to strengthen land governance and management institutions through the Ministry of Lands. This would be accomplished by availing more human resources and the necessary operating tools required to resolve these outstanding land reform and tenure security issues.

The Ministry of Lands and other relevant Ministries (e.g., Ministry of Agriculture and Ministry of Environment, Water and Climate Change) will also need to implement and enforce regulatory provisions for the effective use and management of land to ensure newly resettled farmers take this resource availed to them seriously. Furthermore, the land issue, even when conclusively resolved, does not constitute agrarian reform. The government along with the private sector and developmental agencies will need to package land reform with other complementary supply- and market-related interventions to achieve success.

2. Specialize maize production in areas of comparative advantage

Given the diverse agro-ecological resource base, numerous agricultural commodities that can be grown, and limitations in other resources in the country, there exists a need for specialization and exchange. Agricultural policy should thus have a strong emphasis on identifying areas with comparative advantage in producing various strategic crops and livestock commodities, specializing production of commodities in areas of comparative advantage, and facilitating exchange across its regions. If the country can embrace the concept of specialization and exchange in the maize sector, production and consumption gains will arise through the efficient, effective use of resources. In line with agronomic requirements, production of maize is best suited in natural region II, which is concentrated in the Mashonaland region. Thus, the country should focus its resources for maize production in the Mashonaland region to ensure efficient, effective production while facilitating in-country trade that will also result in consumption gains.
3. Establish appropriate co-management structures for common property irrigation

For Zimbabwe to sustain agricultural production and food security in the face of climate change, the country will need to consider climate smart agriculture that includes irrigation development and other climate-resilient strategies such as conservation agriculture. The non-availability of water in Zimbabwe is the most limiting factor to agricultural production (Manzunzu 2003). Irrigation has the potential to improve smallholder maize yields by 2 t/ha in high potential areas of Zimbabwe. The government, farmers, and developmental agencies need to focus on the rehabilitation and modernization of already established irrigation schemes that were formerly privately owned and are now under common resource property in smaller farms post land reform. Furthermore, adaptation/replacement of the old irrigation machinery and equipment to serve the smaller scale farms will be needed to ensure effective and efficient use of irrigation by smallholder farmers.

The government should also take additional action to encourage co-management structures. For instance, it should encourage private-public partnerships for commercially viable irrigation investments projects that are capable of repaying themselves, thus helping to mobilize resources from the private sector. Through its research institutions, the government should also strengthen irrigation research and development particularly to devise mechanisms for sustainable management and for the efficient, effective use of irrigation schemes will go a long way toward improving food production.

Farmers in shared irrigation facilities need to be organized to ensuring fair access to common irrigation infrastructure through the establishment of effective co-management structures with clear assignment of rights and obligations of plot holders. Appropriate irrigation models suitable for smallholder farmers such as to micro-irrigation will also need to be explored by research organizations to ensure full use of irrigation facilities by farmers. Given the huge expenditure outlay needed for irrigation development and rehabilitation, particularly for smallholder farmers growing maize, government, the private sector, and developmental agencies should place priority for irrigation investment on areas with high potential for irrigation returns by commercially viable entities; further expansion to other areas could be extended from revolving funds generated from initial target areas.

Regarding climate change and adaptation strategies, there is also a need for capacity building among farmers, policy makers, and agricultural research, training, and extension professionals. Information is integral for decision making under climate uncertainty. Meteorological entities will need to develop capacity to predict climate variables correctly and to provide an effective early warning system for climate disaster risk to make stakeholders, particularly farmers, aware of the hazards and enable them to take corrective measures. Insurance-based social protection strategies should be explored by the private sector in collaboration with the government,
where possible, to cushion farmers against the consequences of climate on such a strategic food security commodity as maize.

4. **Expand the provision of agricultural finance**

Finance is key to enabling effective demand for improved inputs that can enhance performance of agriculture, such as infrastructure, machinery, fertilizer, seeds, and chemicals. Thus, Zimbabwe will need to catalyze internal and external financial sources for farmers to enhance the use of advanced inputs in agriculture. The government, through its Ministry of Lands and Resettlement, and the Bankers Association of Zimbabwe should facilitate the offering of bankable permits and leases to enable farmers to access finance, as mentioned earlier. Given limitations in available financial resources, it may not be logical to spread available avenues for finance from the government, private sector, and donor community across all farming sectors and geographical locations—without regard for the viability of finance in those sectors because this will not help grow the limited, financial resources. Instead, it is important that all financial services provided by either government or banks be prioritized to commercially viable maize farmers, based on farmer type and those regions with comparative advantage in maize production. This will ensure growth of limited financial resources in a way that allows for future expansion as the base continues to grow. Given the strategic importance of maize, the need for self-sufficiency in the sector, and the limitations in available finance, government should prioritize subsidizing financing for maize sector by enacting a special lending policy that prescribes a certain proportion of lending with a special subsidy to the maize sector. This approach would target commercially viable maize sectors to areas with high maize-production potential in Mashonaland West, Mashonaland Central and Mashonaland East (in order of decreasing preference). An alternative to alleviate the shortage of credit for maize farming is through input-output market link, such as processor-farmer agreements, where inputs in contract farmer arrangements are provided against future output at a guaranteed price. However, this can only be successful if (1) a regulatory environment exists for mutually beneficial contract farming arrangements and (2) agro-processing firms have an incentive to engage in contract farming activities through special loan provisions and assurance by government that no policy intrusions would disturb the workings of contracts particularly ex-post contract engagements.

5. **Strengthen agricultural support institutions**

Supportive institutions (public and private agencies, associations of farmers and other intermediaries) responsible for training, research, extension, marketing, credit, and regulatory functions will need resources to enable them to deliver service. Critical human resources and funding for operations, infrastructure, and equipment need to be availed to facilitate delivery of services. The government should commit 10 percent of its national budget to agriculture, as endorsed in the CAADP roadmap, to contribute toward strengthening agricultural support
institutions for better service delivery. There is a need to reform these institutions to service the agricultural sector under the emerging environment, for instance, the dominancy of the smallholder farming sector and climate change.

In this context, the coordination between agricultural training, research, and extension institutions; farmer representative bodies; and developmental agencies that are interlinked should be firmly established through the creation of common platforms and information and communication strategies. Capacity building of stakeholder representative bodies (policy analysis, advocacy, and lobbying for an improved business environment) in line with the aforementioned regulatory issues in the maize sector, given this sector’s importance to the economy, can trigger government to improve the regulatory environment for the betterment of the sector and others in general. Farmer representative organs need to be organized to form an effective apex body that communicates and champions general concerns affecting farmers in maize production with one united voice, a voice that is stronger than fragmented, individual efforts. Thus, there is a need to establish and strengthen the capacity of a Confederation of Farmers Union.

6. **Strengthen farmer capacity to manage farming as a business**

Traditional smallholder farmers have been oriented toward subsistence and mixed farming, and if maize continues to be grown under this traditional model, this may not ensure achievement of set objectives of food security and improved household incomes. To maximize crop production benefits, there a change of the mindset of farmers and government should be induced so that they would consider maize as a commercial crop that should be grown in areas that have comparative advantage in production. For this to happen, there is a need for provision of effective agricultural training and extension to smallholder farmers (communal and A1) and government officers (policy makers) on good agronomic practices, economics of production, intensification of agriculture, and farming as a business.

7. **Promote agriculture mechanization**

Recent efforts to improve farmer access to mechanization services have significantly improved agricultural productivity. For farmers to capitalize on economies of scale toward commercially viable maize enterprises, however, there remains ample room to mechanize production. Also given the productivity challenges to human capital posed by HIV/AIDS, together with increasing rural urban migration, agriculture production will only be sustained in such a labor- constrained environment through increased mechanization. Given resource limitations, spreading any mechanization programs that may be available (for instance, the Brazilian facility of up to US$98.6 million under the cooperation program More Food International throughout the country may not achieve desired results. The government must prioritize strategic initiatives, such as food security, and target competitive production sectors as a starting point, and then
extend the facility to other areas with resources permitting. For effective use and maintenance of equipment, community-based artisanship in repairs and maintenance will be needed, targeting farmers, local artisans, and so forth.

8. **Reconsider the use of GMO technology**

In terms of biotechnology, the critical challenge lies within the context of Zimbabwe’s GMO-free policy, given global GMO trends, the globalization of the world economies, porous border posts, and the country’s inability to separate GMO from non-GMO finished products. These factors pose unfair competition on local industry as the country is promoting GMO-tolerant industries outside by allowing finished products with GMO ingredients. It is recommended that the Zimbabwean government reconsider its GMO position based on sound scientific analysis to ensure that the country is not penalizing itself in the process.

9. **Reform maize factor and product marketing strategies for effectiveness and efficiency**

In the past, market interventions applied to the maize sector have been in the form of input subsidies, product price controls, import restrictions, and the Strategic Grain Reserve Facility. As mentioned earlier, these interventions have been practiced with limited impact and resulted in policy ineffectiveness owing to the following key contributing factors: administrative failures such as delays in inputs release, inadequacy of input packages, delayed payments, and inefficient targeting. Guaranteed grain prices—that are above the competitive price—implied a cost push for grain processors that will be pushed onto consumer products as processors strive to maintain viability. Ultimately, industry contraction and wage rigidity will work collectively to suppress maize consumption by both farmer and urban workers. At the macroeconomic level, public expenditures subsidies and price support imply a huge burden to fiscus, results in the contraction of money supply in the economy, thus causing an upward pressure on interest rates in a way that inversely affects investment. There is an opportunity cost of government involvement in activities that have room for private engagement because the private sector is crowded out, thus compromising service delivery in the future.

Based on lessons from the past, these marketing reforms are proposed:

**Targeted input subsidies**: Input subsidies should be targeted to areas that have a comparative advantage in maize production—and not to farmers all over the country most of whom cannot grow maize efficiently. To attract these commercially viable entities in maize production, government subsidies could be availed in the form of a special agricultural loan facility with a subsidized interest rate that eligible farmers can bid for through Agribank and other commercial banks. This approach will help to deal with administrative failures of poor targeting. The government, in its effort to support maize production for food security, will need to consider a holistic approach to complement the subsidy program through strategies
presented earlier, including land, human capital, supportive institutions, climate resilient strategies, and so forth.

**Product pricing policy:** To balance the need to protect smallholder farmers and at the same time promote industry viability, a two-tier marketing channel, as was in the 1996 Grain Marketing Board mandate to (1) set prices to operate as floor and ceiling prices (stabilization) and (2) procure produce at floor prices for strategic grain reserve (SGR) purposes. On the other end, private millers, traders, and farmers will be allowed to trade freely on the open market. Market infrastructure and market information systems should be well developed by government and the private sector to facilitate transactions at least cost during marketing. In line with the SGR facility, the concept is needed much more than ever given the increasing climate risk. However, there is a need to streamline the SGR facility to reasonable, manageable levels in line with global trends in the movement of goods from surplus to deficit locations. A two-month supply stock (260,000 t) should be targeted as a lead period for outsourcing to avoid excessive inventory control costs. Excessive storage facilities currently owned by the Board should be leased out to the private sector and in the process create an SGR fund that can be dedicated to supporting farmers and providing buffer stock.

**Protectionist policies:** Import ban on raw maize should be considered by government only as short-term measure to protect the local market from imports, pending amendments to long-term competitiveness through supply-oriented factors, as stated above. The target should be on promoting the importation of raw materials rather than finished products to support the established agro-processing infrastructure to promote local industry, employment, and the national tax base. Over the long term, local industry will benefit from competition by continuously improving their capabilities and competency to match international standards and to compete effectively in regional and international markets.

10. Post-harvest management

Post-harvest food losses are a global issue of growing concern for stakeholders such as governments, farmers, food processors and handlers, as well as consumers, because it is terminal and includes loss of all the other resources that went into production of the food (fertilizers, pesticides, labor, and machinery wear and tear). To complement the efforts of the national SGR, Zimbabwean farming communities have traditionally embraced the concept of micro-grain storage facilities through a number of techniques. But concerns have been noted that food losses and wastages to post-harvest management are unacceptably high; moreover, although current agricultural policy has been heavily biased toward crop production, there has been limited focus on post-harvest management. As such, MAMID should revisit the agricultural policy documents and provide an emphasis on post-harvest management that will form the basis for developing a strategy to ensure its effectiveness. Agricultural research institutions should research and develop innovative approaches for effective post-harvest management. Incentives
should be availed by government to the private sector in the form of special tax exemptions on raw materials to facilitate the production of improved technologies for post-harvest handling such as hermetic containers and user friendly pesticides.
References


Law Development Commission Ministry of Justice, Legal and Parliamentary Affairs


Zimbabwe Agricultural Competitiveness Programme (ZIM-ACP)


Zimbabwe Vulnerability Assessment (ZimVAC) Report, 2015
### Appendix 1: Stakeholders Consulted

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