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LAND POLICY, INVESTMENT AND PRODUCTION AS INGREDIENTS TO  
PRODUCTIVE AGRARIAN TRANSFORMATION IN ZIMBABWE

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## **ABSTRACT**

Zimbabwe's land policies have posed limitations towards creating a surplus in the agricultural sector, the basis upon which industrial growth and agrarian transformation are anchored. Key factors towards agrarian transformation are technology adoption, increased labour productivity and surplus production in the agricultural sector. The agricultural surplus accordingly migrates out of the agricultural sector in favour of the manufacturing sector. This surplus outflow is enabled through trade and taxation of the agricultural sector through rural urban terms of trade. The study reviews the land policy in Zimbabwe and investigates the extent to which the policy provides incentives for investment and technology adoption to increase labour productivity in the agricultural sector. The study rests on an agrarian transformation theoretical framework that posits that income elasticity of demand for agricultural goods is negative (Engel's law); meaning that demand for agricultural goods declines as rural incomes increase. The research is based on a desk study of relevant literature and land policies implemented by the Zimbabwe government since 1980. This is complemented by empirical data drawn from various organisations that have been tracking the progress of the land reform programme. Findings from the study show that land policies delivered well on the equity but much less on land use efficiency (and environmental conservation) as technology adoption and investment by reform beneficiaries remained low. Low public investment in infrastructure and services have constrained trade and agrarian transformation. Agrarian transformation occurs when the relative importance of agriculture to GDP declines and the relative importance of the manufacturing sector increases. This only occurs when the agricultural surplus migrates (through trade) into the manufacturing sector and in the process increasing the latter sector's contribution to GDP. Land policies that promote technology adoption and investments are needed and scope exists towards this through proper attention to land policy, land tenure and land governance in general. Good land governance has a positive impact on public and private investment and therefore technology adoption, the key ingredient for increased labour productivity in the agricultural sector.

**Key Words:** Land, land governance, land policy, investment, labour productivity, transformation

## **Introduction**

Since the launch of the Fast Track Land Reform Programme (FTLRP) much has been written about agrarian transformation in Zimbabwe (Moyo, 2011; Scoones, 2011; Government of Zimbabwe). This paper seeks to a) address misconceptions about agrarian transformation in the literature on Zimbabwe's land reform, and b) to answer the question on whether or not Zimbabwe's land policies have enabled labour productivity, surplus production and agrarian transformation.

The key objectives of land policy are to a) address equity and justice issues: to address historical inequities and injustices based on race, social status, gender, political affiliation and other such differences; b) land use efficiency: to ensure that the land transferred would be used productively for the production of food for domestic consumption and export, and raw materials for manufacturing industry; and c) environmental management for sustained production and productivity. Zimbabwe's land policies have achieved more on equity through land redistribution and resettlement programmes, but much less on land use efficiency and environmental management objectives.

The paper begins by presenting a theoretical framework on agrarian transformation which has guided the analysis. Secondly, the methodology that guided the study is outlined. This is followed by a discussion on the status of agrarian transformation in Zimbabwe. Lastly, recommendations are made on issues that require attention in the review of Zimbabwe's land policies with a view to catalyse agrarian transformation.

## **Theoretical Framework and Gap Analysis**

### **Theoretical framework**

Agrarian transformation occurs when the relative importance of agriculture to GDP declines and the relative importance of the manufacturing sector increases. The historical record shows that it always declines in relative importance in growing economies (Timmer, 1969). Moreover, agriculture was thought to provide the only source of productivity that could be tapped to fuel the drive for modernisation. Surplus labour, savings, and expenditures to buy the products of urban industry, and even surplus foreign exchange to buy the machines to make them (Kuznets, 1955). This only occurs when the agricultural surplus migrates (through trade) into the manufacturing sector and in the process expanding the manufacturing sector. The declining importance of agriculture is uniform and pervasive, a tendency driven by powerful forces inherent in the development process, whether in socialist or capitalist countries, Asian, Latin American, or African. This is one of the senses in which industrialisation is dependent upon agricultural improvement; it is not profitable to produce a growing volume of manufactures unless agricultural production is growing simultaneously. This is also why industrial and agrarian revolutions always go together, and why economies in which agriculture is stagnant do not show industrial development (Lewis, 1954).

The need for rapid agricultural growth and for the decline in the agricultural sector's share of output and the labour force are not contradictory, but the apparent paradox gave rise to a widespread misperception that agriculture is unimportant in that it does not require resources or a favourable policy environment because its relative share of the economy declines. Engel's Law, explains that in a closed economy with constant prices, there will be a declining share for agriculture (and low farm incomes unless some farmers leave agriculture) no matter how fast the sector grows (Timmer, 1988). Because growth is led by demand patterns in market economies, a less-than-unitary income elasticity for the products of the agricultural sector guarantees that gross value of sales by farmers will grow less rapidly than gross domestic product (Timmer, 2003). Lewis (1954) notes that if agricultural output fails to grow rapidly enough, rising prices might actually garner farmers a higher share of consumers' expenditures. But this reflects lower real incomes, not the result of economic growth (Timmer, 1988).

From both historical and contemporary perspectives, agricultural transformation evolve through at least four phases that are definable (Timmer, 2003). The process starts when agricultural productivity per worker rises. This increased productivity creates a surplus, which in the second phase can be tapped directly, through taxation and factor flows, or indirectly, through government intervention into the rural-urban terms of trade. This surplus can be utilised to develop the non-agricultural sector, and this phase has been the focus of most dual economy models of development. For resources to flow out of agriculture, rural factor and product markets must become better integrated with those in the rest of the economy. The progressive integration of the agricultural sector into the macro economy, via improved infrastructure and market-equilibrium linkages, represents a third phase in agricultural development (Timmer, 1969). When this phase is successful, the fourth phase is barely noticeable; the role of agriculture in industrialised economies is little. The four phases in agricultural transformation call for different policy approaches. In the earliest stage of development the concern must be for facilitating agricultural growth. Resources need to be allocated to public investment in research and infrastructure as well as to favourable price incentives to farmers to adopt new technology as it becomes available. As these investments in agriculture begin to pay off, the second phase emerges in which the agricultural sector becomes a key contributor to the overall growth process through a combination of factors outlined by Johnston and Mellor (1961).

The "Johnston-Mellor Linkages" allow market-mediated, input-output interactions between agriculture and industry thus contributing to economic development. These linkages are based on the agricultural sector supplying raw materials to industry, food for industrial workers, markets for industrial output, and the exports to earn foreign exchange needed to import capital goods (Johnston and Mellor, 1961). For the Johnston-Mellor linkages, it is difficult to see any significance for policy or economic growth unless some of the markets that serve these linkages are operating imperfectly. That is, resource allocations must be out of equilibrium and face constraints and bottlenecks not immediately reflected in market prices if increases in agricultural output are to stimulate the rest of the economy at a rate that causes the contribution from agriculture

to be greater than the market value of the output, the agricultural income multiplier is greater than one (Timmer, 1995).

The process of agricultural transformation involves a successful structural transformation where agriculture, through higher productivity, provides food, labour, and savings to the process of urbanisation and industrialisation (Timmer, 2005). A dynamic agriculture raises labour productivity in the rural economy, pulls up wages, and gradually eliminates absolute poverty. The common structure involves the evolution of the agricultural sector from a starting point of household subsistence production, through the adoption of new technologies that provide surpluses and rural food security, to more diversified farm activities driven by commercial forces, and finally to the full integration of the agricultural economy into the overall economy (Campbell, 2008). This structural pattern can be examined from two directions: first, from the perspective of the main policy concerns shown. The implications of dependency theory for agricultural development stand in sharp contrast to the growth-stage and dual-economy theories (Johnston and Mellor, 1961). The growth-stage theories attempt to explain the process of transformation from a primarily agrarian to an industrial economy.

Both the agricultural transformation itself and the contribution of agriculture to the rest of the economy depend on three important features namely: the peculiarities of the agricultural production function, the importance of home consumption of output for the sector, and the role of the agricultural sector as a resource reservoir (Bryceson, 1996). These features are more evident in traditional societies, and their distinctiveness erodes during the process of economic modernisation. The design of agricultural policy, in both poor and rich countries, is complicated by these features, but a recognition of them is essential to a full understanding of the contribution agriculture might realistically be asked to make to a country's development effort.

Agriculture in the process of development is to provide increased food supplies and higher rural incomes to enlarge markets for urban output, as well as to provide resources to expand that urban output. But there are severe limitations on the capacity of a developing country to simultaneously promote agricultural and industrial development, hence the importance of developing agriculture in such a way as to both minimise its demand on resources most needed for industrial development and maximise its net contribution required for general growth (Johnston and Mellor, 1961). In most development models, modern industry is the cutting edge of economic growth, while agriculture plays the role of a resource reservoir which can be drawn on for supplies of food, labour, and finance to fuel the growth of urban activities. It is argued that this is both a logical necessity and a matter of historical experience, illustrated by the case of Japan. The process of agricultural transformation raises agricultural output through a combination of investment and technical progress, part of the increment in farm output and income is available for transfer to non-agriculture. This process is termed the dynamic view of resource transfer. The model-building implications of this approach are different, and its policy implications are decidedly different (Reynolds, 1975). New technology and market linkages create more opportunities than they destroy if both the agricultural and non-agricultural sectors are growing together. An emphasis on

finding the policy environment that creates such mutual growth is needed. For agriculture, that environment must call forth rapid technical change.

Growth in agricultural productivity not only increase farm incomes, it also stimulates linkages to the non-farm rural economy, causing economic growth and rapid poverty reduction, with overall growth multipliers almost always significantly greater than one (Hazell and Haggblade, 1993). Nonfarm linkages generated by technical change in agriculture can enhance both growth and its poverty-reducing effect. A growing agricultural sector demands nonfarm production inputs, and supplies raw materials to transport, processing, and marketing firms. Likewise, increases in farm incomes lead to greater demand for consumer goods and services. Besides stimulating national economic growth, these production and consumption linkages affect poverty and spatial growth patterns, particularly when agricultural growth is concentrated on small and medium-size farms (Johnston and Kilby, 1975; Mellor, 1976; and Mellor and Johnston, 1984).

### **Study Methodology**

The study is based on desk literature review backed by empirical work carried out by research institutions in Zimbabwe. RUZIVO Trust, Centre for Rural Development (CRD) and the Sam Moyo Institute for Agrarian Studies (SMIAS) were key sources of empirical evidence on agrarian transformation analysed in this chapter. International literature from various research institutions, development agencies and individual researchers and academics was closely examined in relation to the research question. Empirical evidence was also drawn from the government of Zimbabwe's land review committees/commissions and the land audit reports undertaken since the inception of the fast track land reform programme. An intensive and systematic literature review was undertaken of government land policy documents.

Despite the wide and in – depth analysis of documents on land policy and agrarian transformation at our disposal, data gaps for critical analysis were found. Some of the gaps were filled in by key informants drawn from relevant government line ministries, farmer organizations, land beneficiaries and financial institutions.

### **Study Findings**

#### **Fast Track Land Reform Programme**

The land reform programme that began in year 2000, otherwise known as the Fast Track Land Reform Programme (FTLRP) had the aim of transforming the rural economy, raise agricultural production to higher levels, enhance agriculture's contribution to national food security and industrial development (Government of Zimbabwe, 2003). Land was viewed as the engine for economic growth. To that effect, land policy had to encourage optimal land utilization including higher productivity among all producers and in all commodities (Government of Zimbabwe, 2003b). Land policy had to contribute to rural capital formation for national development. Building the base for capital formation through securing tenure rights for all categories of land and land tenure systems was to be a priority. Government was to establish a credible security of tenure policy that was essential for building confidence and enabling investment on the land as well as facilitating agricultural financing (Government of Zimbabwe, 2009). Land tenure security is the individual's perception of his rights to a parcel of land on a continual basis, free from imposition or interference by authorities as well as the ability to reap the benefits of labor or capital invested

in land either in use or upon transfer to another holder. The security of land tenure is the function of the availability of justifiable bundle of rights to occupy, transfer and exclude. These rights confer security to the owner if they are provided for and protected in law. As tradable freehold and/or leasehold interest, they also form the basis for use as collateral for financial institutions that seek to invest in agricultural development (Government of Zimbabwe 2018).

Despite its broad intentions, the FTLRP only made notable success in distributing land to the needy. More than 14 million hectares were expropriated and distributed among more than 230 000 households (Pazvakavambwa, 2007). Land reform transferred land to many small-scale holders and brought them new livelihood opportunities. Although substantial amounts of land were given to political elites, most of the land was delivered to small-scale farmers. Less than 5 per cent of the new landowners were connected to the political elite and they got 32 per cent of the land, while 68 per cent of the land was transferred to ordinary Zimbabweans (CANVAS, 2016; Government of Zimbabwe 2018). Hence, despite the controversies surrounding the land reform, the programme provided many formerly landless people with land and new livelihood portfolios (Mujere, 2011). That way, land reform addressed equity and social justice issues to do with historical inequalities and injustice based on race, social status, gender, and political affiliation.

The major challenge confronting the nation is to make the resettled land productive. With expropriation, land became the property of the government. The subsequent collapse of the agricultural sector is rooted in the enduring failure of the Zimbabwe government to develop an effective land policy (Chavunduka and Bromley, 2007; Roth, 2003; RAU, 2006; UNDP, 2002). Rather, land policy has long been riddled by incoherence, inconsistencies, and contradictions (Moyo, 2011; Echanove, 2017; Rukuni et al, 2009). Part of the incoherence arose from a desire to address inequality in land ownership, but at the same time acting to undermine new farmers' property rights (Roth; 2003). This insecurity arose because the land on which new farmers were settled was now owned by the government and was, therefore, worthless as collateral. Investment in agriculture was imperiled because necessary permits, state land leases, and "offer letters" did not provide security of tenure (Taffs, 2013). Moreover, as we will document below, a series of flawed macro-economic policies undermined these new small farmers as they struggled to become productive (Dekker and Kinsey, 2011).

### **Technology adoption**

The adoption of technology by land reform beneficiaries is essential for increased agricultural productivity. An important thing to consider is the role that land policies have been playing to enable investment in farm technology. How could land policies have helped to improve investment in farm technology? Technology adoption is examined with respect to farm equipment and machinery, irrigation, inputs such as fertilizer, hybrid seed, pesticides and insecticides.

During the land invasions that were part and parcel of the FTLRP, some farm equipment was either stolen or vandalised against a background of lack of properly instituted structures for accountability. Displaced farmers accused land occupiers of the crimes whilst the later blamed it on the dispossessed white farmers. Some productive assets such as tractors and combine harvesters were stripped of parts rendering them virtually useless; hence they lie idle on the farms. The shortage of tractors for use in tillage has been one of the major challenges faced by resettled farmers. District Development Fund tractors provide tillage services for A1 farmers but are

insufficient and lack fuel. The market supply of agricultural equipment and farm machinery has been severely affected by the shortage of foreign currency and prolonged economic crisis (Government of Zimbabwe, 2003b). Since many new farmers lacked capital and had to rely on renting and leasing equipment, agricultural productivity has been constrained by low and uneven access to farm machinery (World Bank, 2009; Government of Zimbabwe, 2003b).

Policy deficiencies have resulted in the lack of clear direction for irrigation interventions. For example, lack of secure land tenure arrangements had the effect of hampering long term investment in irrigation by farmers (Government of Zimbabwe 2003b). Irrigation utilization has been low and in some cases non-existent regardless of availability of water sources and irrigation equipment. Irrigation water usage remained low because of the overall depression of the agricultural sector, lack of technical expertise, shortage and high cost of electricity and lack of capital needed to restore damaged or stolen irrigation equipment (Hove, 2016; Moyo, 2008). A total of 2 078 farmers out of 11 857 audited were not utilizing irrigation infrastructure on a total of 11 245.21 hectares they found on the farms, mostly because the equipment was vandalised and required rehabilitation (Moyo, 2008). Because of land tenure insecurity, available water bodies were underutilized, mainly due to lack of investment in irrigation development, rehabilitation and modernization. This underutilization has been made worse by inappropriate technologies that did not take into consideration the land sizes of farmers, and other considerations such as the gender, physical abilities, and age of the users (Government of Zimbabwe, 2018). Access to electricity has been affected by high power tariffs of 9.86c per kWh compared to the regional average of 7.50c per kWh (Munyoro et al 2016). With irrigation accounting for less than 3 per cent of the total agricultural budget, only 5 per cent of the national cropped lands are irrigated and plantations control 57 per cent of this, while small producers control 30 per cent (World Bank, 2006; FAO, 2016; Echanove, 2017). About 17 per cent of the land beneficiaries had one form of irrigation facilities, while 28 per cent of the A2 farmers had irrigated crops compared to 14 per cent of A1 farmers, and only 10 per cent of both groups had invested in irrigation (Moyo et al, 2009). In cases where new dams such as Osborne, Mtshabezi, Mazvikadei and Zhovhe were built, utilization has been hampered by lack of irrigation infrastructure (Government of Zimbabwe, 2003).

Zimbabwe soils being mostly sandy loams require the use of hybrid seed and application of fertilizers for improved agricultural productivity. Improved agricultural productivity requires effective government support in broadening farmer access to extension and veterinary services, input and output markets and land ownership information. Since the FTLRP there has been increasing demand for hybrid seed and fertilizer amidst high costs and limited availability of inputs on local markets. Seed has been inaccessible in the right amount and type and at the right time for many reform beneficiaries (Government of Zimbabwe 2003b). Genetically modified seeds were effectively prohibited and open-pollinated seed was encouraged. The prohibition of genetically modified seeds can be seen to have constrained agrarian transformation by limiting the adoption of high yield seeds which would have optimised productivity thus allowing output to spill over into the manufacturing industry thus igniting the process of agrarian transformation.

Zimbabwe used to be one of the biggest fertilizer producers in sub-Saharan Africa. Since 2001 the fertilizer industry has been faced with a number of constraints, severely affecting its response to the new agrarian challenges. These are: a) lack of foreign currency to import sufficient quantities of potash, sulphur, etc.; b) poor supplies of ammonium nitrate, and c) erratic supply of electricity



due to load shedding. The production of the staple maize crop has become expensive due to the high cost of fertilizers. In 2009, Zimbabwe produced 100 per cent of sub-Saharan ammonium nitrate and 28 per cent of nitrogen, phosphorus and potassium. However, in recent times production has sharply declined due to the economic crisis, and now the country imports 68 per cent of its fertilizer requirements (ACB, 2016).

### **Agricultural productivity**

Since the 1990s Zimbabwe has been experiencing a fall in the yield of cereal food crops, primarily maize and wheat, a change attributed to flawed land reform (Moyo, 2007, AIAS, 2007). Maize yields per hectare fell from an average of 5.6 tonnes per hectare in the 1990s to around 2.0 tonnes per hectare in 2012. Wheat yields per hectare fell from an average of 5.8 tonnes per hectare in 1990 to 2.9 tonnes per hectare in 2007 (The Financial Gazette, 2014). Maize yields on large-scale commercial farms have averaged 4000kg/ha whereas production on resettlement schemes has been 800 kg/ha.

The low productivity of farmland has been explained by a variety of factors including insecurity of tenure, inadequate budgetary allocations and recurrent drought conditions. Tenure insecurity and the lack of a collateral base for credit had a negative effect on the production of most commodities by both white large – scale and resettled farmers, contributing to the underutilization of land (Government of Zimbabwe, 2003a). Insecurity of tenure has been hindering capital formation and investment on allocated land and hence productivity. In the absence of bankable forms of land ownership, and given the paucity of resources, beneficiaries have not been able to secure support from financial institutions that invariably have required collateral security of one form or another (Government of Zimbabwe, 2003a).

Increased agricultural productivity requires sustained public investment in the supply side of agriculture through institutional development of infrastructure, extension, and veterinary services; input and output markets. Budgetary allocations for land reform remained woefully inadequate, just as those for agricultural development. The overall national budget has been decreasing due to the economic crisis, and since 2010 the percentage allocated to agriculture has been consistently below the Maputo Declaration of 10 per cent, ranging between 3.8 and 5.3 per cent, and most of it has been covering administrative costs, not operations (USAID, 2016).

Farming operations in resettlement schemes as in communal areas have been persistently vulnerable to weather shocks. The high reliance on subsistence rain – fed agriculture renders a large majority of the rural population vulnerable to climate related shocks and seasonal stressors. Zimbabwe experiences an eleven year drought cycle. Even in the intervening years, rain – fed agriculture has been a risky business as most farming seasons have been characterized by the late onset of rains, prolonged intra – seasonal drought and lower planted hectareage – sometimes leading to the write – off of about half the potential crop harvest. The agricultural sector has been vulnerable to drought which will need to be addressed by appropriate policies and programmes.

### **Agricultural surplus and rural urban trade**

Since 2001, Zimbabwe has experienced a cereal deficit primarily in the staple maize and wheat. In order to satisfy the national requirement of about 1.8 million tonnes, Zimbabwe has been forced to rely on regional imports (mainly from South Africa, Zambia and Malawi) whose cereal

production has been increasing in recent years (Zimbabwe, 2013; FAO, 2016). To satisfy the annual wheat requirement of about 450,000 tonnes, Zimbabwe has been importing 95 per cent of that – mainly from South Africa (FAO, 2016). In the grain deficit situation, there has been no surplus to move through the value chain to be processed in the manufacturing industry into higher value products (EU, 2009). In fact, firms have grown more reliant on imported inputs that mostly used to be sourced locally (FAO, 2009). The World Bank RPED survey conducted during the 1990s showed less than one-third of businesses using imported raw materials, and the import content was 15 per cent of all raw materials. More than half of manufacturing firms now report using imported raw materials, and the share of imported raw materials has increased to 29 per cent. This is happening when smallholder farmers continue to operate in predominantly local and generally informal markets (FAO, 2010). Scoones (2011) would disagree.

In addition to the food crop deficit rural urban trade has been constrained by poor infrastructure, price control and high transaction costs. The government sets the buying price for grain crops. In an era of profound and rapid inflation, the set prices offer scant incentive to invest in intensive production that might augment yields of maize and wheat. For example, producer prices for cash crops such as cotton have continued on a declining trend. Policy efforts in the past have been inconsistent and ad hoc in nature (price controls, trade restrictions, etc.) pointing to a lack of strategic thrust to guide the agricultural sector's marketing and pricing policy regime (USAID, 2014).

The crop deficit and adverse terms of rural urban trade have limited the migration of agricultural output to manufacturing industry thus constraining agrarian transformation. Agrarian transformation will not occur in the absence of sustainable productivity growth in agriculture because the latter provides raw materials for the manufacturing sector (Zimbabwe, 2003a). Unlike food crops, cash crops, primarily tobacco have produced a surplus but rather than boost the domestic processing industry, it has been finding its way into foreign manufacturing markets. The relative success in tobacco farming has been inadequate to stimulate a surplus at the household level, as the tobacco income effect was reduced by the low productivity in food crops.

### **Macroeconomic environment**

The results of this research show that the policy framework has not enabled the transformation of the agricultural sector. Labour productivity has not increased as reflected by the low crop productivity levels except in the case of export crops such as tobacco and cotton. Demand for agricultural products has not increased substantially because of de – industrialization. To the contrary, the macro-policy framework has undermined the performance of the manufacturing sector, a key factor in the equation towards agrarian transformation. In the absence of manufacturing sector led demand for agricultural products, any surplus in the agricultural sector will not find its way into the manufacturing sector and the expected rural incomes will remain subdued. At the same time the agricultural industry has not been able to feed the manufacturing sector with adequate raw materials for processing posing a supply-side constraint to agrarian transformation. In the absence of increased rural incomes, income elasticity of demand remains unitary, limiting progression of the economy towards a middle income one. The agricultural sector still employs relatively more labour compared the manufacturing sector, and yet deepening agrarian transformation would lead to relatively more employment in the manufacturing sector. Hence, the economy has not experienced a relative shift in the contribution of agriculture and

manufacturing to GDP. The next section examines how land policy could enable agrarian transformation.

### **Options for the future**

Looking into the future, we make recommendations on issues that require attention if Zimbabwe's land policies are to enable farm investment and agrarian transformation. We accomplish this task by developing two scenarios, namely the business as usual and turnaround scenarios. In coming up with the scenarios, we have taken cognizance of the fact that some of the policy advice has been proffered before but not implemented by government (Government of Zimbabwe, 2001; Rukuni et al, 2009). Hence, our turnaround (optimistic) scenario is premised on the assumption of a more effective, long-term political settlement, rooted in more widely accepted forms of public authority. Such a political settlement would engender a more stable macro – economic environment for investment in land.

### **Business as usual scenario**

The business as usual scenario presents a future of continued contested elections and political instability. Government fails to address the fiscal crisis and the quality of governance continues to decline, causing further macroeconomic deterioration. Instead of agrarian transformation, there will be continued hollowing out of linkages between agriculture and manufacturing industry, as exemplified by the dominance of raw tobacco in Zimbabwe's exports in 2017. The agricultural sector suffers as worsening macroeconomic conditions undercut productivity.

Climate change will make Zimbabwe a warmer and drier country, with increasingly unpredictable rainfall patterns. Even abundant rains may not provide a boon to agricultural production because they may fall intermittently (Welborn et al, 2019).

There would be few incentives, no direction and a vacuum in policy thinking (Scoones et al, 2010). The state would not prioritize investment in land, with land continuing to be source of patronage. During the early 2000s, agricultural assistance constituted between 10 and 15 percent of the annual state budget, but since 2010, the country's budget allocation to agriculture has been consistently below the Maputo Declaration of a minimum 10 per cent, ranging between 3.8 and 5.3 per cent (USAID, 2016). The private sector would find it risky to invest in rural land because of tenure insecurity. Land tenure has remained insecure because of state ownership and evictions. State ownership limits the quantity (breadth) of land rights held by those in land possession. Additionally, those land rights are held on the whims of the state.

In this business as usual scenario, Zimbabwe's agricultural yields will continue on a downward spiral. At an estimated 1.8 metric tons per hectare, Zimbabwe's agricultural yields are currently the 13<sup>th</sup> lowest in Africa since 2005 (Welborn et al, 2019). The trend has seen Zimbabwe's crop import dependence rising at an alarming rate from nearly 30 per cent in 2019 to nearly 60 per cent of demand by 2040.

The fall in agricultural productivity has reduced most land reform beneficiaries to net consumers rather than producers of surplus thereby destroying the agro-industrial backward and forward linkages that characterized large-scale commercial agriculture.

### **Turn-around scenario**

In the turn-around scenario government adopts and implements land policy instruments that will cause deviation from business as usual. It is important to recall that existing land policies focus on issues of equity and social justice at the expense of other generic land policy objectives. A holistic land policy should address the following objectives: equity and social justice, land use efficiency, land tenure security, poverty reduction, land and environmental management, national healing and stability.

Improved agricultural productivity and agrarian transformation will require Zimbabwean land policy to, among others; address the key objective of land use efficiency through instruments of land tenure security, and investment in land.

### **Land tenure security**

The land tenure of land reform beneficiaries has been insecure and based on patronage by the state. Moving forward, mechanisms for securing tenure need to enable transferability of leases, permits and licenses. That is, the state needs to increase the breadth beyond use to land transfer and exclusion rights. “Secure and transferable property rights facilitate the creation of credit markets, opening up access to the finance required to purchase better seeds, fertilizer, and other improvements (Prosterman et al, 2007). In the Zimbabwe context, this proposition is not plausible because following the nationalization of land, it ceased to be a marketable commodity. It became dead capital. If reform beneficiaries can transfer their land rights through sale and rental markets, this can encourage them to invest in their land to increase its productivity and long-term value. Given issues around the use of land as collateral, other means for accessing credit, such as the creation of social capital can be tried. Studies in Masvingo, Mashonaland and Matabeleland Provinces have shown potential for networks in the sharing of farm equipment (Scoones et al, 2010; Moyo, 2011).

### **Public and private investment in land**

Agrarian transformation requires concerted government investment in land, particularly during the process of land reform. This entails public investment in infrastructure (dams, roads, and electricity), financing (credit systems), input supply (fertilizer, seed), technology (irrigation, farm equipment) and coordination mechanisms (institutions and policy) that bring about increased agricultural productivity. The provision of public goods through investment in agricultural research and development, extension services, and rural infrastructure are key to achieving sustainable long – term agricultural growth (Government of Zimbabwe 2018). Public investment needs careful planning as in the case of existing dams where institutional arrangements need to be put in place for the shared use of water, its management, electricity supply, provision of storage and marketing infrastructure.

The reality of the situation has been the declining capacity of the government to fund investment in land. Sustainable solutions will need to rely on enabling private investment in land through farmers and their associations. This necessarily requires addressing the problem of tenure insecurity assuming the revitalization of land markets.

## **Conclusion**

Although much populist literature exists about agrarian transformation in Zimbabwe it has been marked by misconceptions as it dwells on changing agrarian structures and rural livelihoods (Moyo, 2011; Scoones et al, 2010). Agrarian transformation occurs when the relative importance of agriculture to GDP declines and the relative importance of the manufacturing sector increases. This has not accompanied Zimbabwe's land reform. In the context of political and economic crisis, agricultural productivity has been in decline, thus has not produced a surplus for the manufacturing sector. In turn, the manufacturing sector has been shrinking and failing to meet the needs of the agricultural sector. Hence, since the 1990s, there has been a hollowing out of linkages between agriculture and manufacturing industry. The value added per worker in agriculture, a proxy for labour productivity has continuously been declining, a sign of an ailing sector. The decline in agriculture GDP has mostly been associated with the movement of the labour force from the agricultural sector to the informal service sector in urban areas, but not increases in agricultural productivity.

Moving forward, increased agricultural productivity needs to be buoyed by a conducive macro-economic environment and technology adoption. Zimbabwe has been stagnating and falling behind other African countries in technology adoption. The high risk of dryland cropping entails the adoption of irrigation as a technology of priority. There is need to assess the appropriateness of inherited irrigation infrastructure for serving the needs of the changed agrarian structure. Where the infrastructure falls short, research and innovation into appropriate irrigation technology is necessary.

Continuation of incoherent land policies will not bring about agrarian transformation. Adoption of sound land policy as explained in the turnaround scenario will enable agrarian transformation following the securing of tenure for all categories of land and public and private investment in land. Public investment will need to nurture economic institutions for agricultural development. As well pricing policy will be needed to enable the movement of agricultural surplus into the manufacturing sector.

Land policy should give confidence (through being accountable and transparent) to investors that eviction risks are minimal. It should foster land tenure security that increases agricultural investment, productivity and negative income elasticity of demand. Duration of tenure should allow recoupment of investment in the land. Property rights to land must allow land holders to exchange land/leases on the market in the event of farm failure. The promotion of land markets enables market determination of land values, providing a basis upon which banks can value agricultural loans.

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