

Chapter 2: The Status of Agricultural Performance in the Eastern and Southern Africa region

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2.1 Introduction

This chapter provides a baseline assessment of agricultural performance in East and Southern Africa. It adopts a multidimensional perspective, recognizing that agricultural performance reflects not only productivity and output but also the policy, institutional, infrastructural, and technological conditions that shape sector outcomes.

Accordingly, indicators related to policy effectiveness, investment levels, input access, and innovation are treated here as core dimensions of performance, rather than as separate enabling-environment factors.

The East and Southern Africa regions are highly diverse, with countries at different stages of economic development. South Africa, Namibia, Botswana, Eswatini, Lesotho, Mauritius, and Kenya are classified as middle-income economies, while the remainder are low-income.

Despite these differences, agriculture remains a central driver of GDP, employment, and poverty reduction throughout the region. Yet agricultural transformation has slowed and, in some cases, has been outpaced by population growth.

Contributing factors include policy and institutional weaknesses, limited implementation capacity, inadequate transformative investment, low technology adoption, and insufficient use of evidence to guide policy decisions (AUC 2023).

While data, information, and knowledge are potential enablers of competitiveness and transformation, regional data and knowledge systems remain weak, constraining evidence-based planning and monitoring. The indicators presented in this chapter therefore provide a reference baseline against which future performance - of both national programs and CGIAR-supported initiatives - can be assessed.

Analytical Framing of Agricultural Performance

The assessment organizes the analysis across four interrelated dimensions. The first focuses on the policy and institutional environment, the enabling conditions that influence sector coordination, governance, and investment.

The second examines productivity and output trends, capturing growth in value added, yield improvements, and labor efficiency.

The third explores infrastructure and market systems, including physical, financial, and trade linkages that determine how efficiently agricultural inputs and outputs move through value chains.

The fourth considers innovation and human capital, encompassing technology adoption, digitalization, extension, and education. Together, these dimensions provide a holistic view of progress and constraints shaping agricultural performance across the region.

The remainder of the chapter is structured as follows:

Section 2.2 reviews the policy and institutional environment, including countries' adoption of agricultural transformation frameworks, governance quality, and macroeconomic indicators such as interest rates, exchange-rate volatility, and inflation.

Section 2.3 discusses primary factors of production—land and population (as a proxy for agricultural labor).

Section 2.4 analyzes infrastructure and market systems, focusing on energy use, internet penetration, and agricultural machinery intensity.

Section 2.5 presents development results, including income and income growth, followed by indicators of crop and livestock productivity and selected cross-indicator linkages that help explain performance patterns.

The chapter concludes with key findings and recommendations, while highlighting areas where further analysis is required to establish causality and deepen understanding.

2.2 Enabling Environment

Policy environment

A key policy framework for agricultural transformation in Africa is the Comprehensive Africa Agricultural Development Program (CAADP) which emerged after the Maputo Declaration in 2003 (AUC 2003) and reaffirmed in the Malabo Declaration of African Heads of State in 2014 in Malabo, Guinea in 2014 (AUC 2014).

The adoption of this framework and its key principles is considered critical for agricultural transformation. Many of the countries in the region have rallied behind the framework, with many of them developing CAADP/Malabo consistent National Agricultural Investment Plans (NAIP) and participating in the CAADP Biennial Review processes as seen in **Table 1**, which stands as evidence that the leadership of these nations are ready to play their part in leading transformation.

However, there are still some weaknesses even in this area in that only three of these countries (Malawi, Rwanda and Zambia) appear to be achieving the targets of investing 10% of their resources in the agriculture sector, **Figure 9**. Many of these countries should increase the share of national budgets allocated to agriculture.

Table 1: Enabling environment in the 12 ESA countries (2018 - 2023)

	Participation in Biennial Review (BR)	Joint Sector Review assessments	Governance Effectiveness	Interest rates	Exchange Rate volatility	Inflation
Eswatini	Yes	Yes	40,14	9,39	10,87	5,37
Ethiopia	Yes	Yes	38,61	11,75	33,08	30,32
Kenya	Yes	Yes	50,59	12,74	11,20	7,15
Madagascar	Yes	No	24,34	51,99	11,64	7,95
Malawi	Yes	Yes	33,85	29,08	35,00	19,69
Mozambique	Yes	Yes	35,15	21,27	3,85	7,94
Rwanda	Yes	Yes	69,47	16,52	12,04	12,36
South Africa	Yes	No	64,14	9,38	10,86	5,91
Tanzania	Yes	Yes	39,53	17,21	3,80	3,95
Uganda	Yes	Yes	40,61	20,56	2,73	4,92
Zambia	Yes	Yes	35,39	10,48	28,62	14,63
Zimbabwe	Yes	Yes	14,49	58,69	144,20	101,00
Data Sources	AUC 2024	ReSAKSS	World Bank 2024	World Bank 2024	World Bank 2024	World Bank 2024

[**Table 1**](#) shows that all countries in focus have participated in the recent cycles of the African Union Biennial Review (BR) processes. Only South Africa and Madagascar have Joint Sector review assessments yet to be introduced, This provides some evidence that many of the countries are willing to adopt innovations for data systems strengthening.

It should be said though that governance needs strengthening with many of the countries scoring less than 50% of the governance effectiveness maximum score of 100%. Kenya (50.59%), Rwanda (69.47%) and South Africa (64.14%) have better governance systems relative to the rest of the ESA countries based on this indicator implying that support for better governance is needed in the other countries to give development interventions a better chance of success.

2.3 Performance on CAADP Biennial Reviews

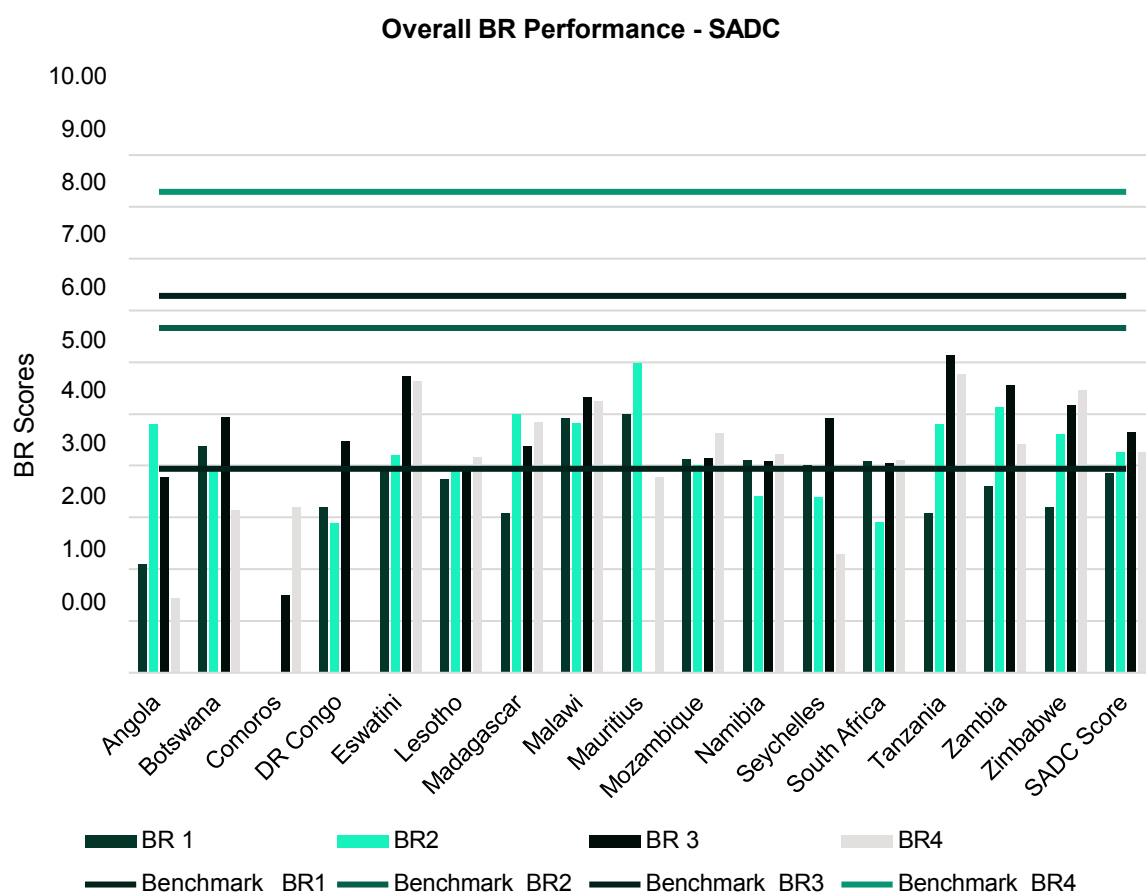


Figure 1: Overall Comprehensive Africa Agriculture Development Programme Biennial Review (BR) performance by SADC member states over the three

Source: (AUC, 2023)

All Southern African Development Community (SADC) member states need to intensify the implementation of their National Agricultural Investment Plans (NAIPs) if they and the region as a whole, are to meet the Malabo Declaration aspirations by 2025 or shortly thereafter.

While several countries achieved the minimum benchmark score of 3.94 in the initial Biennial Review (BR1, completed in 2017), their performance declined in subsequent reviews (BR2 in 2019, BR3 in 2021, and BR4 in 2023), with none reaching the updated milestones required to stay “on track.”

This pattern partly reflects the design of the benchmarking model, in which the benchmark represents the milestone value a country must reach in a given review cycle to remain on course toward achieving a score of 10.00 by the final target year (2025). Thus, benchmarks are not static—they rise over time in proportion to expected progress. If benchmarks were to remain unchanged, a country could appear “on track” in 2025 without having demonstrated real advancement.

The BR4 cycle identified several persistent challenges constraining progress despite these recalibrated benchmarks, including:

2.4 Key challenges from the Malabo BRs

The Biennial Review (BR) process has revealed persistent structural, institutional, and investment challenges constraining agricultural transformation across Eastern and Southern Africa (ESA).

The Third (2021) and Fourth (2023) Biennial Review Reports of the African Union Commission (AUC) highlight that, despite incremental progress in some countries, most ESA member states remain off-track toward achieving the Malabo Declaration's 2025 targets. Across both reporting cycles, the data reveal a worrying convergence of low agricultural growth, weak investment, and limited resilience to shocks.

For instance, less than five percent of youth in Eswatini and Ethiopia were engaged in new employment opportunities within agricultural value chains, underscoring the persistent gap in creating decent jobs for young people. In Eswatini, Madagascar, and Kenya, agricultural GDP growth stagnated below 1.9% in the evaluation year, far short of the 6% annual growth target, while agricultural public expenditure consistently lagged behind the 10% commitment set under the Maputo and Malabo Declarations.

The Fourth Biennial Review (2023) further noted that no country in Africa was on track to meet the 9.29 benchmark, with the best-performing countries, Rwanda (8.07), Morocco (6.99), and Egypt (6.83), still falling below the target. Several ESA countries, including Malawi, Mozambique, Zambia, Zimbabwe, Madagascar, and Uganda, recorded slow or negative progress on poverty reduction, signalling that agricultural growth has not translated into broad-based welfare gains.

In the same vein, trade facilitation and regional integration commitments showed widespread underperformance, with non-tariff barriers, weak logistics, and inadequate border infrastructure constraining intra-African agricultural trade.

Resilience building remains a critical weakness. Countries such as Madagascar (9.4%) and Zimbabwe (15.7%) reported very low shares of farm, pastoral, and fisher households resilient to climate- and weather-related shocks — reflecting inadequate adaptation investments and slow uptake of climate-smart practices.

Moreover, the Fourth BR attributed much of the stagnation to compound crises, including the lingering effects of COVID-19, the Russia–Ukraine war, extreme weather events, and input price volatility, all of which have reversed earlier development gains.

At the institutional level, weak monitoring and evaluation (M&E) systems, fragmented data architectures, and inconsistent policy coordination remain major barriers to evidence-based decision-making. The 2021 BR had already called for stronger national coordination platforms, harmonized data protocols, and improved integration between National Agricultural Investment Plans (NAIPs) and Biennial Review processes.

Yet by 2023, progress in institutionalizing these systems remained uneven. Collectively, these findings suggest that the challenge is not merely poor performance against indicators, but a deeper misalignment between policy ambition, investment effort, and implementation capacity.

For the ESA region to accelerate agri-food system transformation, countries will need to:

- Strengthen domestic financing for agriculture and ensure its effective targeting.
- Integrate resilience and youth employment objectives into core agricultural strategies.
- Modernize trade and market systems under the AfCTA framework; and
- Institutionalize robust, data-driven mutual accountability mechanisms.

Only by addressing these interlinked constraints investment, productivity, resilience, and accountability, can ESA countries move decisively toward achieving the aspirations of the Malabo Declaration by 2025 and sustain progress under the post-Malabo CAADP framework.

Macro-economic environment

A conducive macro-economic environment is important for agricultural transformation. Investors in the agricultural sector benefit from low inflation and a stable exchange rate as well as affordable cost of finance.

More than half of the ESA countries have average inflation rates that are under 10% which is generally viewed as good for investment decisions. However, with inflation rates above 10% as in the case of Ethiopia (30.32%), Malawi (19.69%), Rwanda (12.04%), Zambia (14.63%) and Zimbabwe (101.00%) more needs to be done in order to stabilize their prices and make it more attractive for investors to invest their resources in the respective countries.

Subsequently exchange rates in Zimbabwe, Zambia, Malawi and Ethiopia exhibited huge volatility in recent years, which again creates uncertainty for investors and deterring investment away to economies with stable exchange rate regimes.

Not only should such unstable exchange rate regimes be resolved, countries in the region, especially, Madagascar (51.99%), Malawi (29.08%), Zimbabwe (58.69%), and Uganda (20.56%) should strive to reduce the cost of borrowing for investors to make it easier for agri-food systems entrepreneurs to engage in business in the sector.

The selected 12 countries in the East and Southern Africa region inhabited around half a billion people in 2024 and at a net growth rate of around 2.3 as calculated from the data [\(2\)](#), the region will inhabit around 1 billion people by 2060 .



Primary factors of production

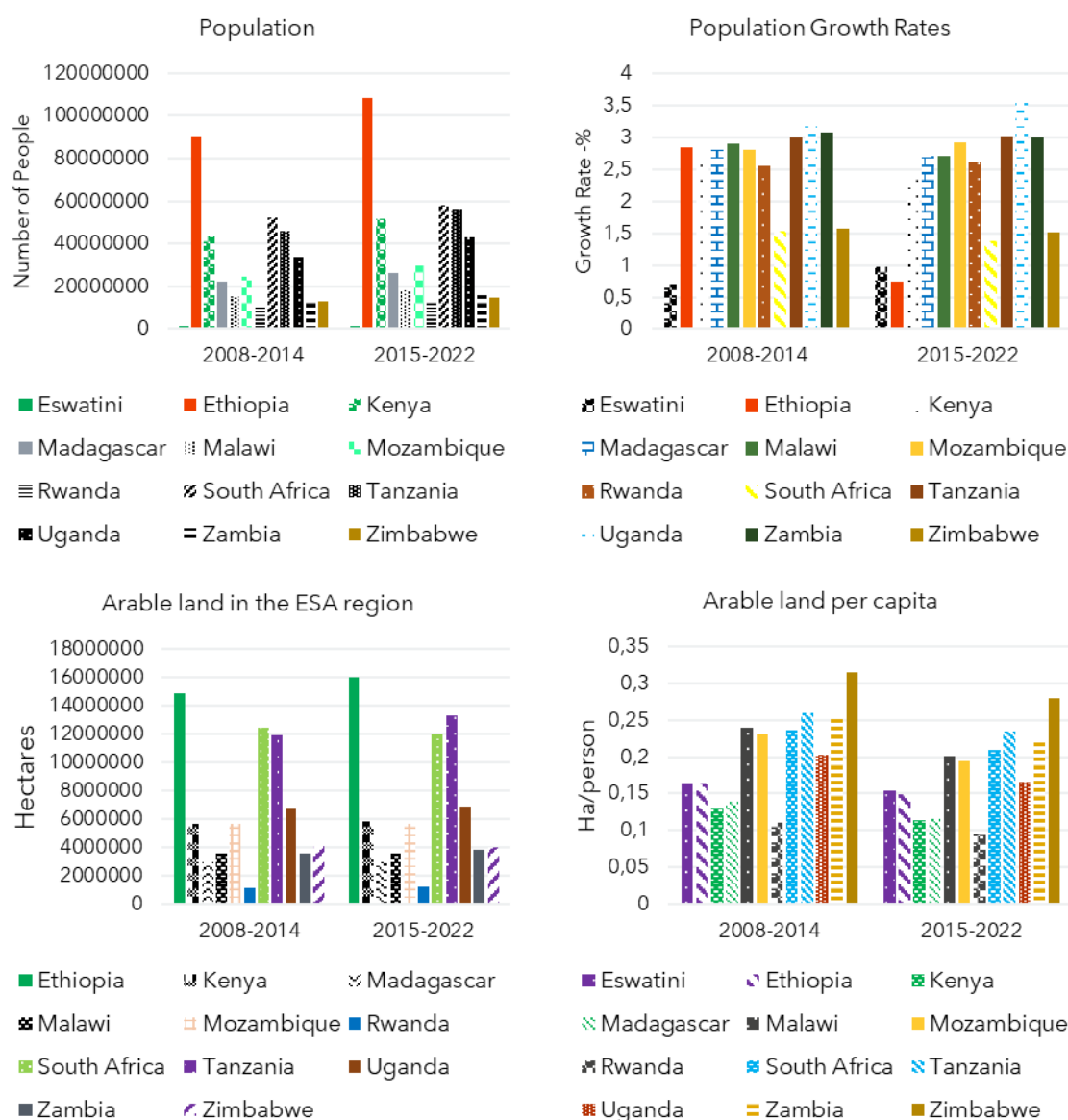


Figure 2: Population, Population Growth rates, arable land and arable land per capita in the ESA

Source: Authors with World Bank data

Many of these people will live in Ethiopia, Tanzania, Uganda and Kenya. The growth rate of the population suggests that the region has the potential to serve as a big market for the supply and demand of commodities of diverse kinds in future (owing to copious labour and consumers).

Nevertheless, should the development of the region be insufficient to generate the jobs needed for the future, such a rapid increase in population could also spell doom as it would generate a pool of jobless youth who will suffer from insecurity, and other forms of deprivation. It is therefore important for programs such as S4I be used to spur growth in food production, and broad-based transformation of the agricultural sector especially because at present, many of the region's people live in rural areas where they derive a living through agriculture.

The two graphs on the bottom panel of **2** show arable land in absolute terms and in per capita terms.

Most of the region's 76 million hectares of arable land rest with Ethiopia, Tanzania and South Africa, respectively, but per capita land holdings are highest in Zimbabwe, Tanzania, Zambia, South Africa, and Malawi owing to low populations in those countries.

Average arable land holdings per capita are generally under 0.2 per hectare although in practice, available land per farming population is larger because a significant proportion of the population earns a living off farming as well, and in countries such as South Africa, land is available to only few farmers which makes per capita holdings high.

In any case, the low per capita holding in the region signals that agricultural productivity improvement through better soil health management will be key in future if the region is to meet the food and agricultural services needs of the one billion plus population of that time.

Requisite Infrastructure

Agricultural transformation and successful diversification away from maize-based systems will also require reliable energy sources for agro-processing, storage, production as well as mechanization. It will also require the utilization of digital technology for efficiency which in turn require access to reliable internet.

Similarly, farm operations that are labor-intensive are often less efficient, and therefore mechanization of farms will be determinantal to future agri-food systems transformation in line with the focus of the future Kampala Declaration on agri-food systems transformation.

Figure 3 shows that the population in the East and Southern Africa region has limited access to electricity, especially in rural areas, with the majority of the countries reporting less than 10% of the rural population with access to electricity in the pre-Malabo period.

Although the Malabo period (2015 – 2022) has seen changes in the share of rural populations with access to electricity, more than 80% of the rural populations still have no access to electricity in many of these countries. The exception is South Africa where 78% have access, and Eswatini (68%) followed by Kenya (49%). Thus, investing in energy systems including solar, wind, nuclear and hydro energy systems depending on the country, would prove useful for meaningful agri-food systems transformation.

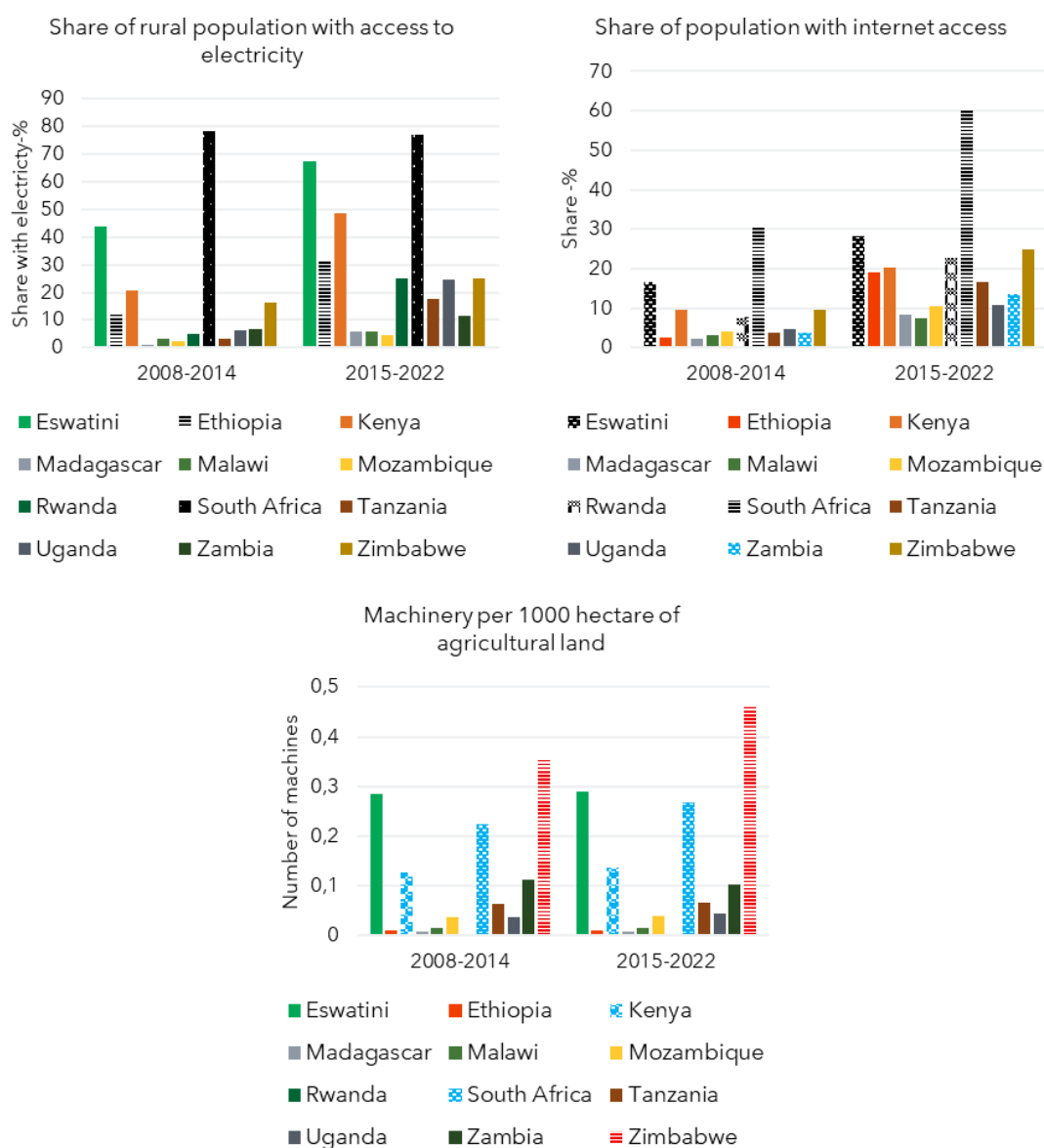


Figure 3: Access to electricity, mechanization, internet and land availability

Source: World Bank Data (World Bank 2024)

The bottom panel of **Figure 3** also shows that the usage of machines per hectare in the region is low and stood at 0.4 machines per 1000 hectares. Such low mechanization means that the region has low capital per labour which depresses total factor productivity. Going forward, mechanization should intensify in the region in order to spur productivity.

Development Results

The East and Southern Africa region is characterized by general low incomes per capita (less than USD1500 for 9 of the 12 countries) with the exception of South Africa, Eswatini and Kenya whose incomes per capita surpass USD 1500 (**Figure 4**). Thus, the majority of the region's population is categorized as poor, underscoring the importance of better programs that seek to transform the agricultural sectors of the region as a means towards improving people's incomes and livelihoods.

Figure 4 depicts the income growth rates which are not high, in the Malabo era, growth has been undermined by events of the era which included the Covid-19 pandemic, the Russia Ukraine crisis and to some extent the droughts that have persisted in the region.

The average growth rates for incomes have been below 4% per annum with countries such as South Africa, Zambia, Zimbabwe, Madagascar and Malawi being negative or just above the 0.5%.

These growth rates are smaller than the AU targets of 6% per annum and more should be done to increase them. A growth rate of 3% per annum would imply the region's lower than USD 1500 incomes per capita would require 65 years to reach an upper middle-income status of USD 10,000 which is a long time, as such more intervention is required to spur income growth in the region.

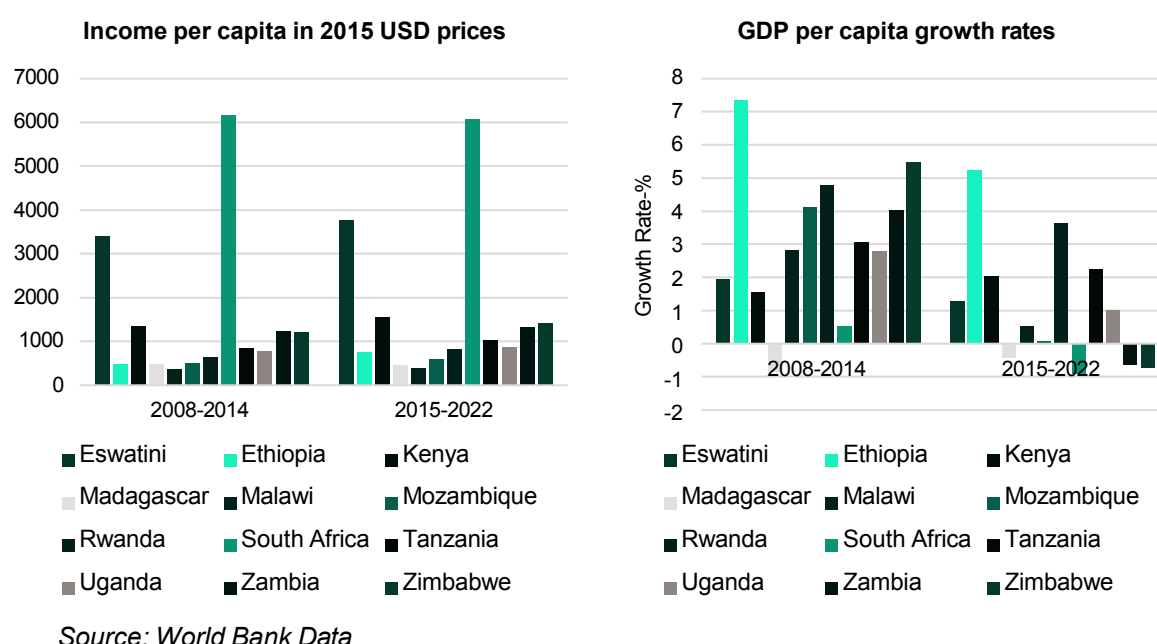


Figure 4: Income per capita and GDP per capita growth rates in ESA

Agricultural Performance

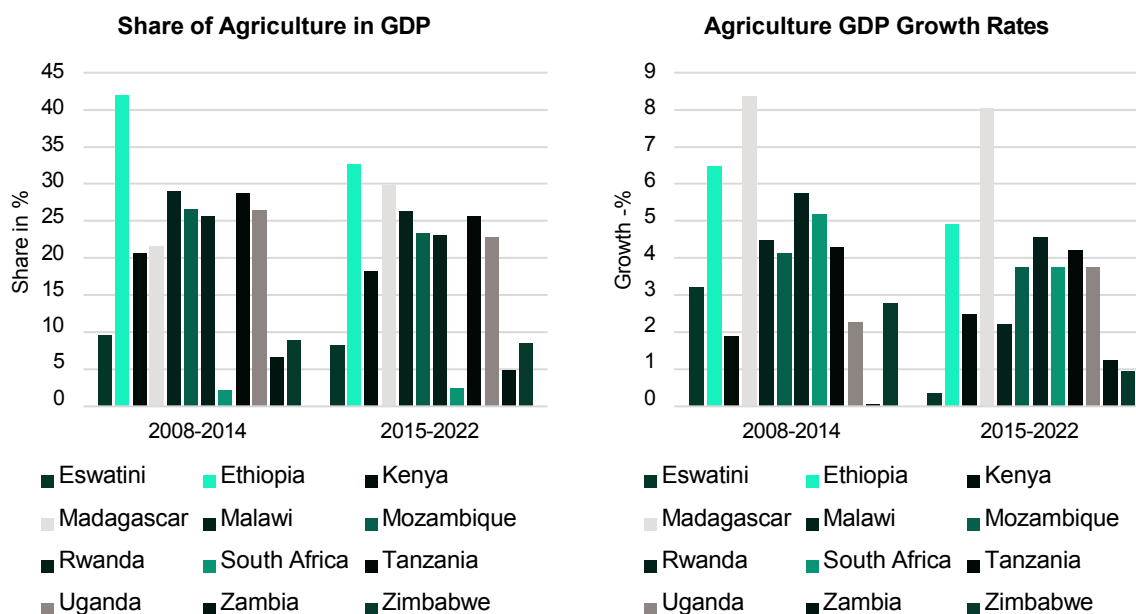
Part of the stagnation of the region emanates from the nature of performance in the agricultural sector considering that for some countries it accounts for a larger share of the economies as measured by agriculture GDP.

Figure 5 shows that the share of agriculture in the total GDP is as high as 20% for many of the countries, with only Eswatini, South Africa, Zambia and Zimbabwe registering much lower shares of agriculture in total GDP.

The high shares of agriculture GDP as a share of total GDP is an indication of the importance of agriculture in the ESA economies, where agriculture GDP shares are low for example in Zambia and South Africa, large shares of the population in those countries depend on agriculture directly.

It is evident also that the share of agriculture in GDP have remained largely constant across the two time periods under consideration, but agriculture GDP growth rates have stagnated below 4% per annum and are lower in the 2015 – 2022 period.

The fact that many of the countries have agriculture GDP growth rates that trail the 6% target set by the AU within CAADP, calls for more efforts to transform agriculture.



Source: Authors with World Bank Data

Figure 5: Share of Agricultural GDP and Agriculture Growth rates

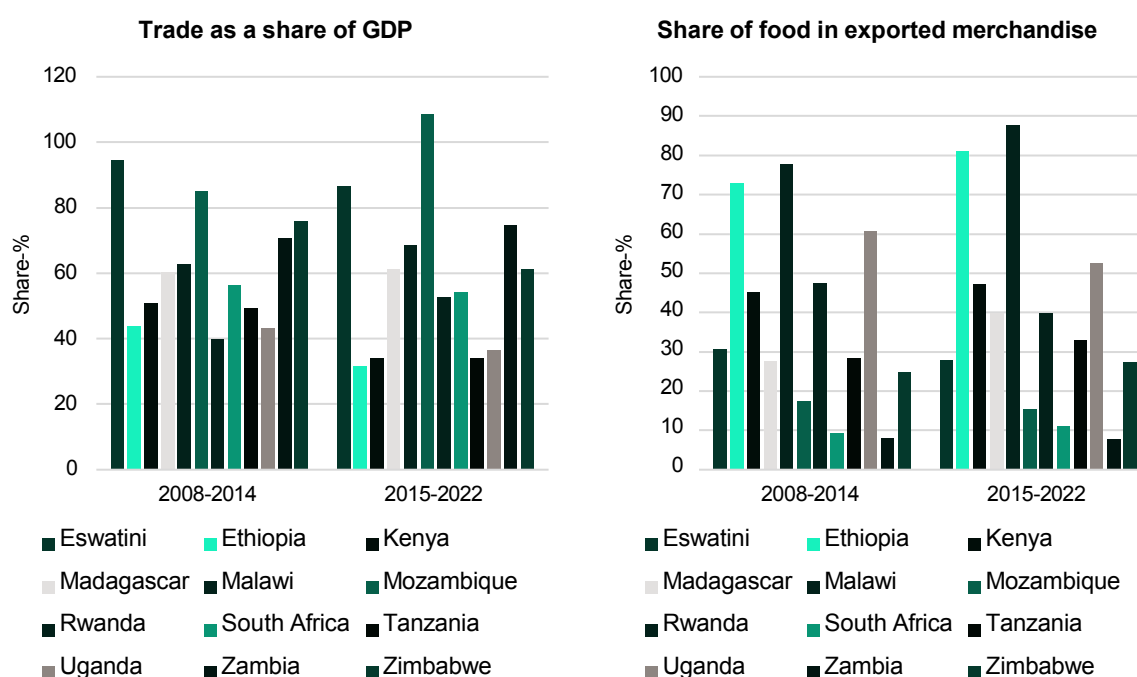
Figure 6 shows the Eastern and Southern Africa (ESA) region remains relatively open to trade, with total trade (exports plus imports) accounting for about 50 percent of GDP in most countries. Exceptions include Eswatini and Mozambique, where trade exceeds 90 percent of GDP (Figure 6). This indicates that trade plays a central role in many economies across the region.

However, the relationship between trade openness and economic growth is not straightforward. While increased trade can enhance competitiveness, productivity, and access to technology, the extent of these benefits depends on the structure of trade, the diversity of exports, and the capacity of domestic industries to respond effectively to market opportunities (World Bank, 2022; UNECA, 2023).

Food trade forms an important component of total trade in several ESA countries, accounting for more than 30 percent in some cases. In contrast, in Zambia, South Africa, and Mozambique, food trade represents less than 16 percent of total trade, reflecting the dominance of non-agricultural exports or limited participation in regional food markets. Strengthening food trade therefore remains essential for both economic diversification and regional food security.

Efforts to improve trade performance must address a broader range of challenges than tariff reductions alone. The region faces several non-tariff and structural barriers, including weak transport and logistics infrastructure, high transaction costs, cumbersome customs procedures, inconsistent sanitary and phytosanitary standards, and poorly developed regional value chains (COMESA, 2021; AfDB, 2023).

These barriers continue to limit the potential benefits of the African Continental Free Trade Area (AfCFTA) and the SADC trade protocols. Addressing them through coordinated policy action, improved trade facilitation, harmonized standards, and investment in regional transport corridors could significantly increase the efficiency and inclusiveness of agricultural trade within ESA.



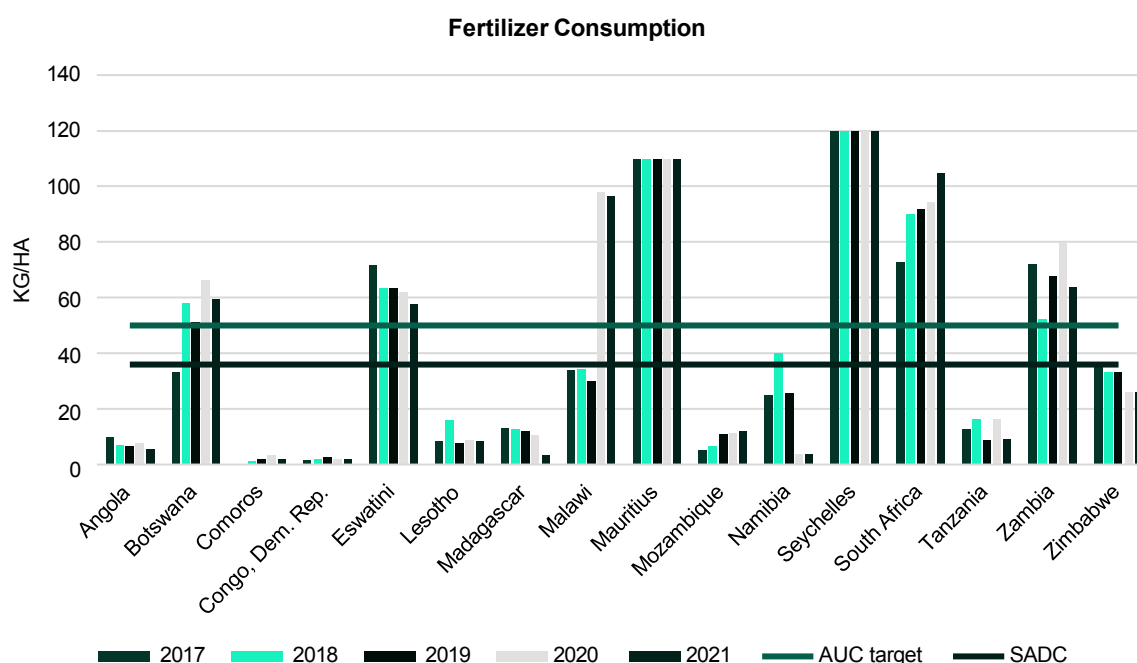
Source: Authors with World Bank Data

Figure 6: Share of food in exported merchandise and Trade as a share of GDP

Inputs use

Figure7 shows variations in fertilizer application rates in ESA countries. In 9 of the countries, fertilizer application rates have generally been less than the Abuja 2006 Declaration on Fertilizers for an African Green Revolution (AU 2006) blanket target of 50kg/ha over the years except in Eswatini, Botswana, Mauritius, Seychelles, South Africa, Zambia and Malawi for two years.

This implies that the agricultural sector consumption of inorganic fertilizers is very low especially because the target set by the African Union Commission (AUC), which countries are failing to achieve, is less ambitious. Asian countries as well as European Union (EU) and North American countries consume more than 130kg of fertilizer per hectare, which is overwhelmingly high compared to the AUC, target of 50 kg/ha.



Source: (ReSAKSS, 2023) and (World Bank, 2024)

Figure7: Fertilizer Consumption

The relatively high fertilizer application rates recorded in Malawi and Zambia are largely the result of the Farm Input Subsidy Programs (FISPs) that both countries have implemented over the past decade to boost agricultural productivity. These programs have expanded access to fertilizer among smallholder farmers, especially in maize production.

In the wider African context, however, fertilizer use remains far below the levels required to sustain crop productivity. Average use across the continent is less than 25 kilograms of nutrients per hectare, compared with a global average of over 130 kilograms (FAO, 2023).

Fertilizer trends in Africa should therefore be viewed differently from those in industrialized farming systems. While excessive fertilizer use is a concern in high-income regions, the key challenge in Africa is the opposite: chronic under-fertilization and nutrient depletion.

Many soils in Eastern and Southern Africa are severely degraded and lack essential nutrients such as nitrogen, phosphorus, and potassium. This makes increased investment in inorganic fertilizers a necessary foundation for raising yields and ensuring food security.

Scaling up fertilizer use must, however, be done with careful attention to efficiency and economic viability. This includes improving the timeliness, affordability, and targeting of input delivery systems, as well as strengthening farmers' knowledge of proper application techniques. Although organic fertilizers and soil amendments can complement nutrient management, they cannot supply the quantities of nutrients required to meet the region's productivity targets, given limited biomass and livestock resources.

In conclusion, increasing the use of inorganic fertilizers, combined with improved seed systems, irrigation, and effective extension services, is essential to closing Africa's agricultural productivity gap and supporting sustainable growth in food production and rural incomes.

Research and Development

Research and Development is critical for long-term productivity gains in the agricultural sector and also to ensure sustainability. Africa lags behind other countries in the field of biotechnology, and general genetic improvements. While national agriculture research systems (NARS) exist in every country, they are often under-staffed and underfunded.

There appears to be a strong reliance on international research organizations for research on crop improvement and advances in biotechnology. This is not sustainable and to help address this, countries are encouraged to endeavor to invest 1% of their agricultural GDPs in research. Thus, one popular achievement indicator within the CAADP Biennial Review appraisal is whether the share of the funds a country invests in research and development amounts to 1% of the agricultural GDP.

Figure 8 indicates that of the countries with data, only South Africa, Seychelles, Botswana and Zimbabwe appear to invest more in research over time. Many of the countries including Madagascar, Mozambique, Tanzania, Malawi, Angola, and Zambia invest less than 0.5% of their agricultural GDPs into research.

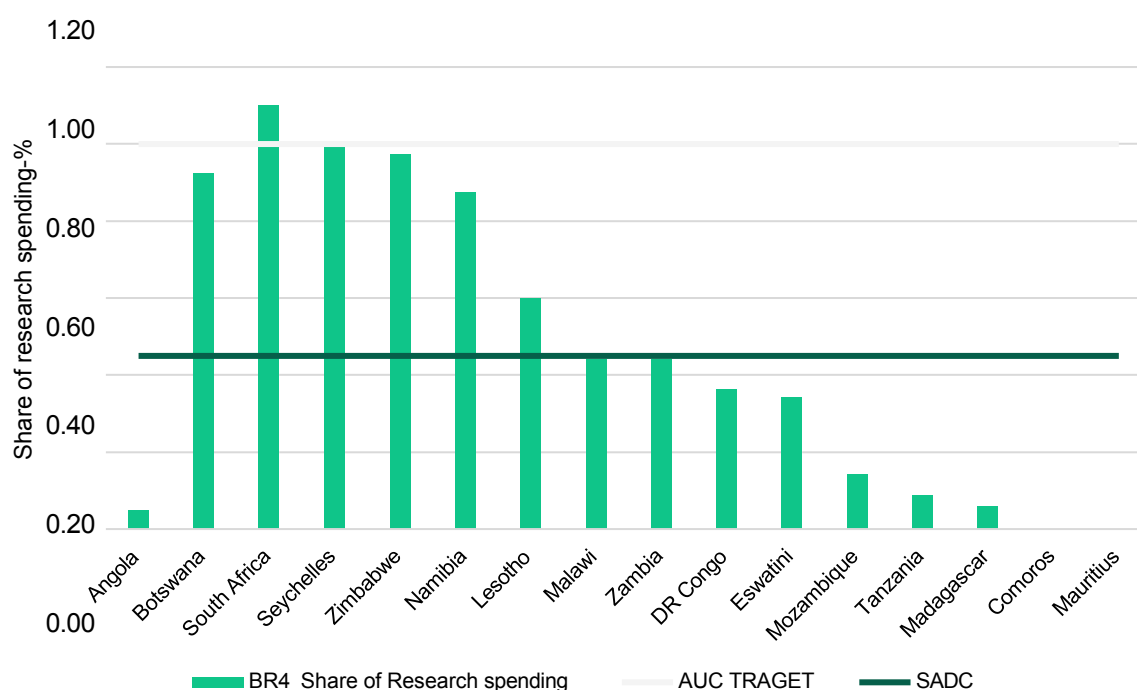


Figure 8: Agricultural research and development spending as a share of agricultural GDP among SADC member states (percent) (source: AUC, 2023)

Underinvestment in research and development is a red flag for sustainability and threatens the future of the agriculture sector in ESA. It is thus important that there be increased efforts towards increasing investments in research, skills development, data and analytics.

Total Agricultural Expenditure

Not only is there underinvestment in research and development in the agriculture sector, but there is also a general underfunding of the agriculture sector in that only Ethiopia, Madagascar, Zambia and Malawi have endeavored to invest around 10% (an AUC target) of their national resources to the agriculture sector. (**Figure 9**). Rwanda and Zimbabwe have also invested significantly in the sector, with Zimbabwe reaching the 10% threshold in the pre-Malabo period, while many of the countries have tended to invest away from agriculture for one reason or another. There is an urgent need to drum up the need to invest more in the agriculture sector as we transition into the post – Malabo era.

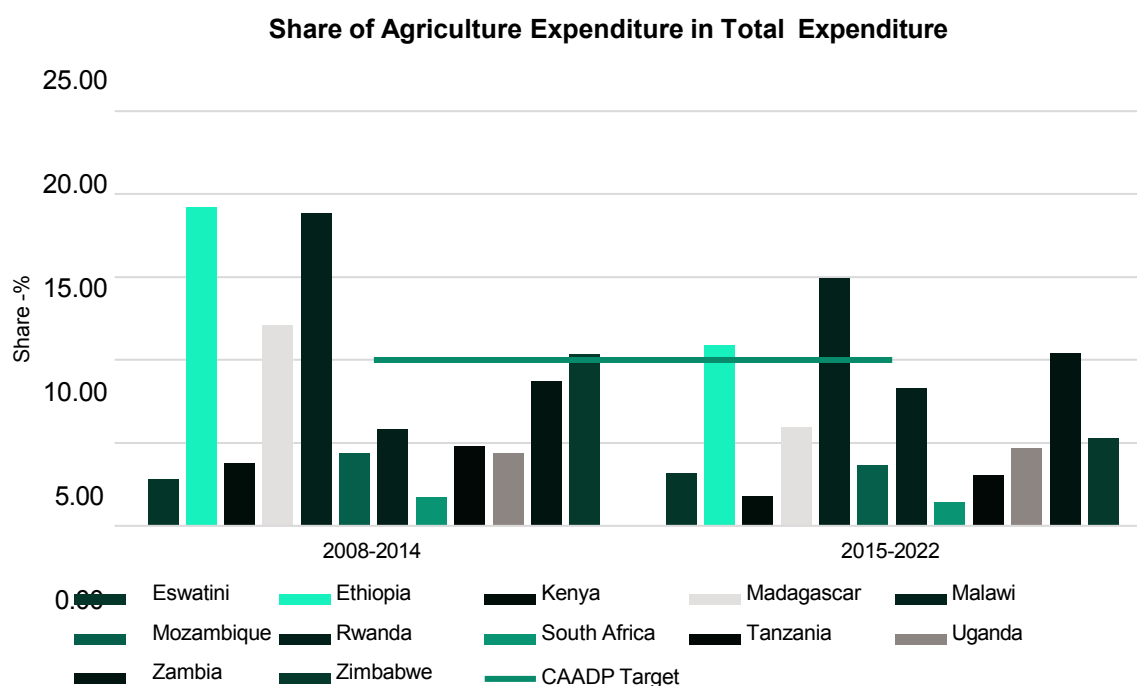


Figure 9: Share of agriculture expenditure in total expenditure

It is important that there be a drive towards increasing expenditures in the agricultural sector targeting key development functions such as irrigation adoption, ecosystem building, modern extension services, fertilizers, general soil health, technology generation and dissemination, digitalization and other functions. This is important and will prove agriculture from climatic and other shocks, increase productivity, and make it more likely that agriculture can continue to be a vehicle for poverty eradication and better nutrition.

Agricultural Water Management

Water management is fundamental to agricultural transformation and resilience in Eastern and Southern Africa. Without effective systems for managing water, even rainfed agriculture cannot achieve its full potential. The severe food deficits experienced in 2024 were largely linked to droughts and floods, underscoring the need to strengthen water harvesting, storage, and control systems.

Irrigation and Water Use Efficiency

Most countries in the region allocate only a small share of cultivated land to irrigation (Figure 10). The Southern African Development Community (SADC) target is that seven percent of cultivated land should be irrigated, yet only Mauritius, Madagascar, and Eswatini exceed this benchmark. In most countries, the share remains below five percent, leaving large parts of the agricultural sector dependent on rainfall. This reliance makes the sector highly vulnerable to climate risks and fluctuations in water availability. Increased investment in irrigation infrastructure and water use efficiency would therefore strengthen productivity and stability in agricultural output.

Rainwater Harvesting, Flood Control, and Watershed Management

Complementary approaches such as rainwater harvesting, flood control, and watershed protection remain limited across the region. Techniques such as contour bunding, infiltration pits, and small water pans can improve soil moisture and reduce runoff, while investments in catchment protection and floodplain management help to mitigate the effects of recurrent floods in low-lying areas of Malawi, Mozambique, and Zimbabwe. Expanding these practices would improve resilience in both irrigated and rainfed farming systems.

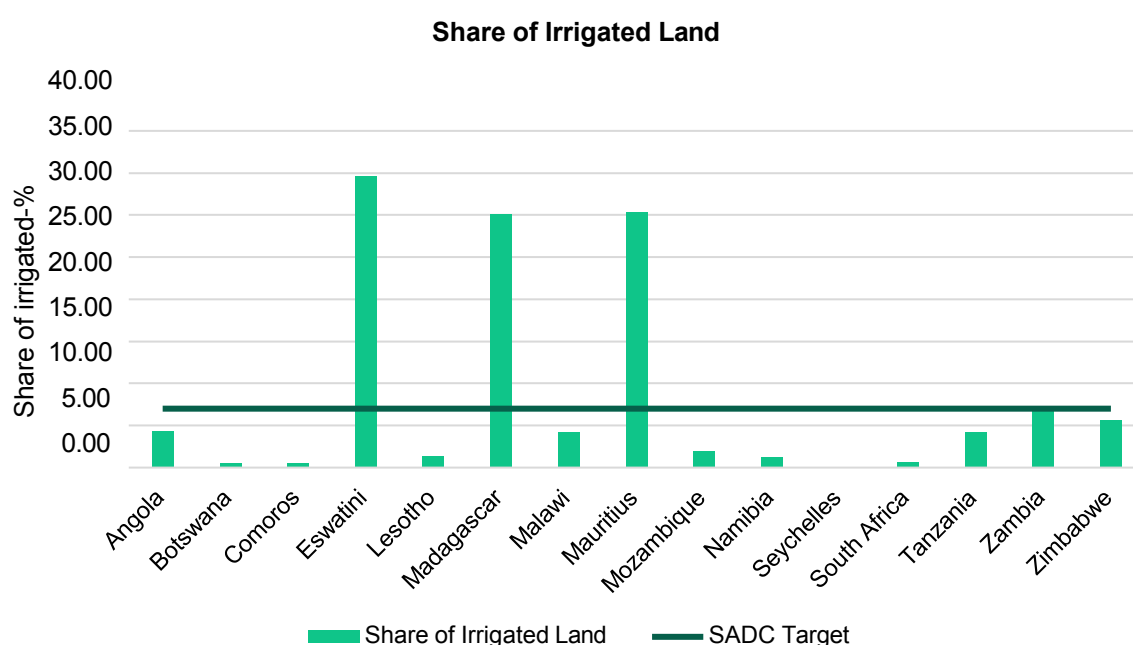
Technology and Innovation

Modern water management can be enhanced through the use of digital tools, precision irrigation, and research-based innovations that improve efficiency. Strengthening data systems, local capacity, and adaptive research will help align water management strategies with the region's changing climate and agricultural priorities.

Thus, low irrigation coverage, limited rainwater harvesting, and weak watershed protection continue to expose agriculture in Eastern and Southern Africa to climate variability.

Expanding investments in agricultural water management, including irrigation, rainwater harvesting, flood control, and watershed rehabilitation, will be essential for improving productivity and building resilience across all farming systems

The region, however, invests less in irrigation (*Figure*) and data on irrigated areas are also not readily available and reliable.



Source: (World Bank, 2024) and (ReSAKSS, 2024)

Figure 10: Share of land irrigated in total land cultivated

Agricultural Productivity trends

Agricultural value-added measures

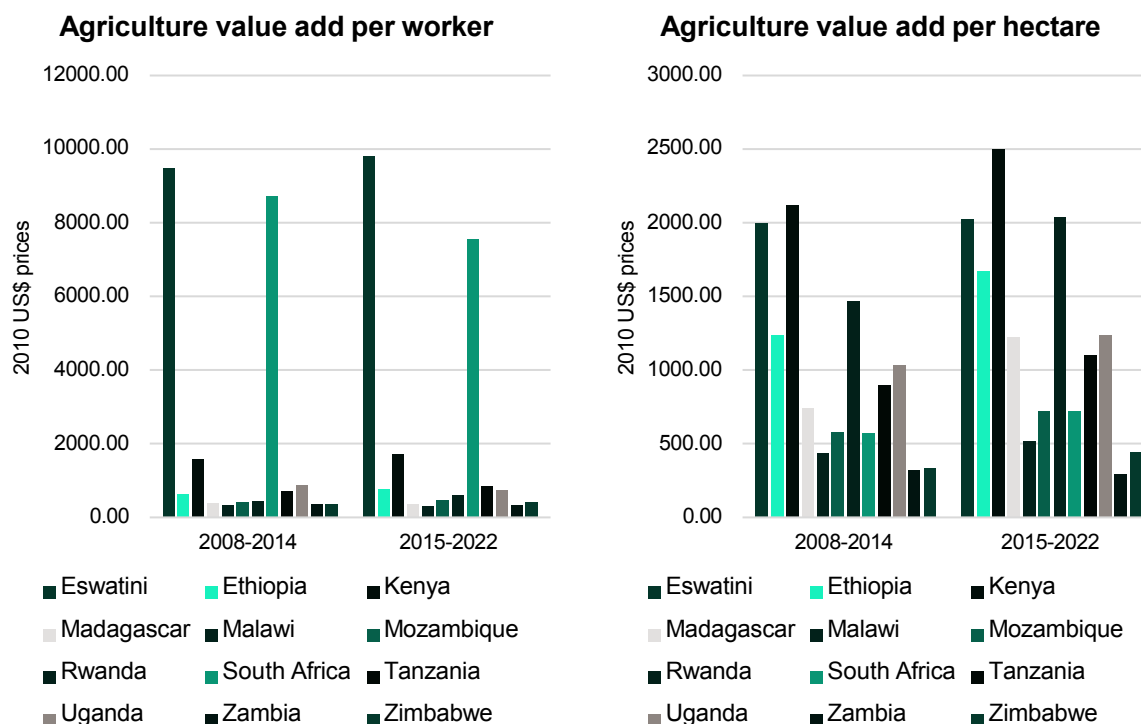


Figure 11: Agriculture value added per worker and per hectare

Source: Authors with Word Bank Data

Agriculture value -add per worker value is highest in Eswatini and South Africa, followed by Kenya, however per hectare agriculture value added is highest in Kenya, Eswatini, Rwanda and then Ethiopia.

Although the per hectare value added between the pre 2015 (before the Malabo Declaration) and the Malabo Declaration (post 2014 period) are similar, a notable improvement is noted for many of the countries which may indicate that the Malabo declaration affected productivity of agriculture positively with respect to agricultural GDP per hectare, although this is not evident for agricultural GDP per worker.

Despite recent improvements, the general observation is that for many countries in Eastern and Southern Africa, returns to agricultural labour remain low and stood at under USD 500 in 2025. Similarly, although per hectare agriculture value improved in the Malabo period for many of the countries, it stood under 1000 USD which is low compared to per hectare costs of farming which are in the same ranges. Thus, more needs to be done to spur better returns per hectare and per worker within the agriculture sector.

Crop Production Trends

Out of 143 recorded crop types across the region (Annex 1), countries in Eastern and Southern Africa exhibit significant diversity in agricultural production. Kenya records the highest crop diversity with 82 distinct crops, followed by Madagascar (71) and Ethiopia (69), while Eswatini reports the lowest at 29. On average, each country produces around 59 different crops, reflecting the broad ecological gradients and varied farming systems that characterize the region.

Maize remains the only crop cultivated in all 12 countries, underscoring its central role in food security, farm livelihoods, and trade integration across the region.

The differences in crop diversity reflect both natural and policy influences. Countries such as Kenya and Madagascar benefit from diverse agro-ecological zones, from humid lowlands to high-altitude plateaus, which support a wide range of crop systems. Others, such as Ethiopia and Malawi, have actively pursued diversification through policy interventions aimed at stabilizing incomes, spreading risk, and improving food and nutrition outcomes.

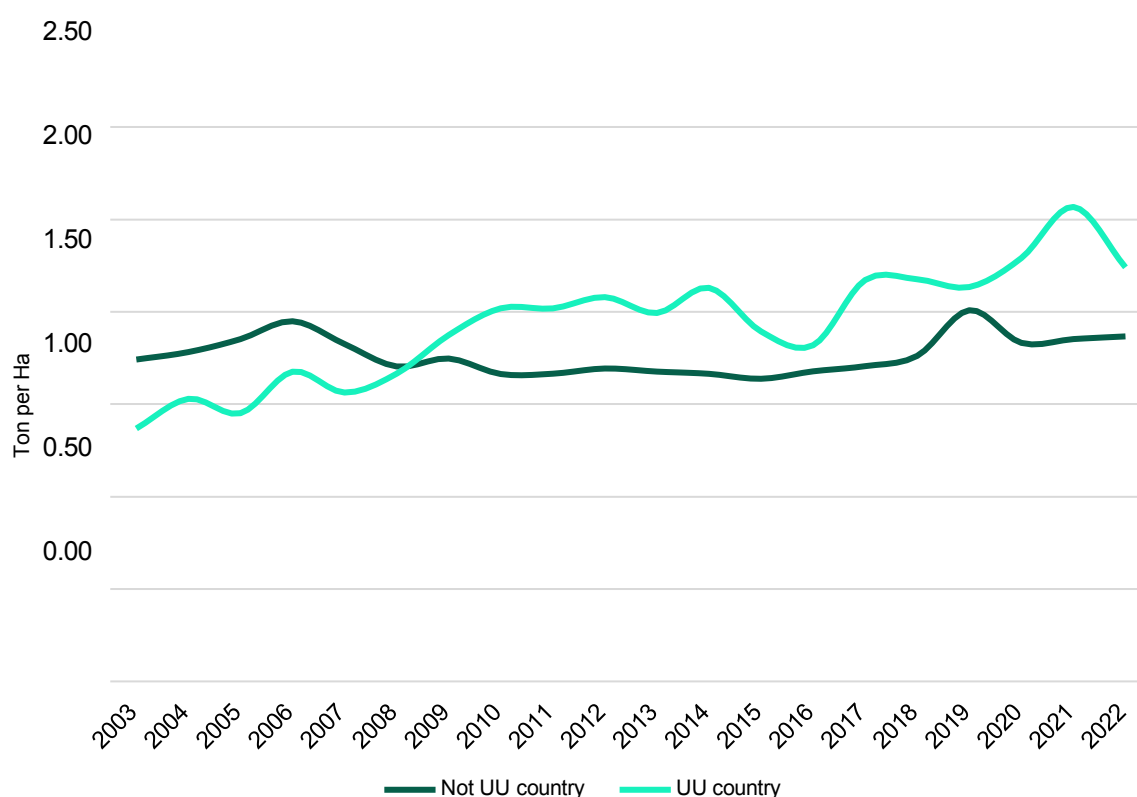
Across the region, however, production remains highly concentrated in a few staple crops. The top 10 crops account for roughly 85 percent of total production volume—about 131 million tons region-wide. These dominant crops include maize, cassava, sugarcane, rice, sweet potatoes, sorghum, beans, potatoes, groundnuts, and vegetables.

In higher-value systems such as South Africa, Kenya, and Tanzania, horticultural fruits, tea, and coffee also appear among the leading commodities. In Madagascar, rice continues to dominate, while in Malawi, Zambia, and Zimbabwe, maize alone contributes between 30 and 50 percent of total crop output by volume.

This concentration highlights a paradox: while agro-ecological conditions allow for substantial diversification, production remains heavily skewed toward a small group of staple crops that are culturally embedded and policy-supported.

Such dependence exposes national food systems to climate shocks and price fluctuations, but it also signals untapped opportunities for diversification into higher-value and climate-resilient crops - particularly legumes, oilseeds, horticultural products, and tree crops - where supportive market and infrastructure investments can unlock inclusive growth.

Figure 12: Productivity trends in maize for UU vs non-UU countries



Source: (World Bank, 2024)

While the target for cereal productivity set by the AU is just a meagre two tons per hectare, for many years, the East and Southern Africa average has been below this target. When smallholder agriculture is analyzed separately from commercial agriculture, which dominates South African agriculture, yields for cereals are clearly under two tons per hectare.

Although the ESA countries appear to register slightly higher productivity levels, this result is driven by South Africa's commercial agriculture, but even with this included the yields in ESA are still under 2.5 tons per ha which is a far cry from the seven tons per hectare realized by farmers in Western Europe, Asia and North America.

Clearly, countries in Africa and ESA in particular should do more to improve agriculture productivity. Increasing the quality of inputs including seeds and fertilizer as well as labour alongside better agricultural water management can help spur productivity.

Figure 3 Within the Eastern and Southern Africa (ESA) region, cereal yields vary widely across both countries and time. South Africa, Ethiopia, and Uganda record the highest yields, averaging more than two tons per hectare, while Eswatini, Mozambique, and Zimbabwe have yields below 1.5 tons per hectare (Figure 13). Although yields have gradually improved since 2003, the pace of growth has been modest and uneven.

Yield variability is also pronounced within countries. South Africa, while maintaining the highest productivity levels, experiences substantial year-to-year fluctuations caused by rainfall variability, input cost shocks, and exposure to global maize markets. This volatility poses risks to the stability of national and regional cereal supply.

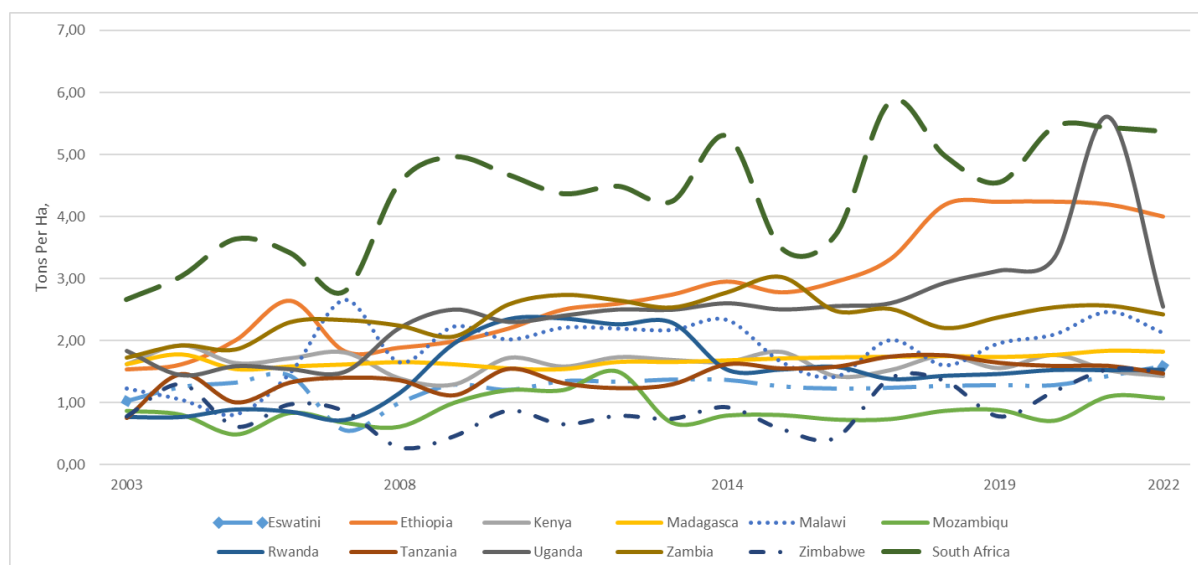
In contrast, Ethiopia and Uganda have shown more consistent growth, largely due to increased use of improved seed varieties, fertilizer, and extension support, as well as deliberate government investment in research and input distribution systems.

The persistence of low and unstable yields across much of the region stems from several structural constraints: limited irrigation and mechanization, low fertilizer application rates, declining soil fertility, and weak access to improved technologies and credit. Climate variability further compounds these challenges.

Improving cereal yields therefore requires a combination of policy, institutional, and technological interventions. Expanding access to inorganic fertilizers and quality seeds, improving water management and small-scale irrigation, and investing in adaptive research and climate information services would raise both the level and stability of yields.

Strengthening farmer training, credit systems, and risk management instruments such as weather-indexed insurance can also help stabilize production. These actions would not only narrow the yield gap but also build resilience in the face of growing climate and market pressures.





Source: (World Bank, 2024)

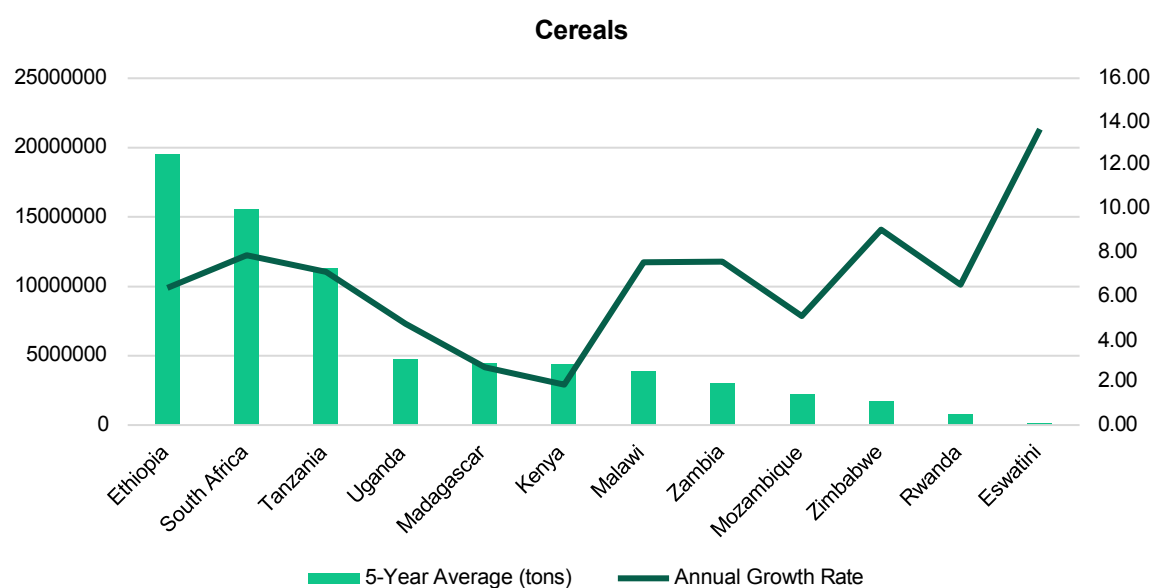
Figure 13: ESA maize productivity

Figure 14 presents cereal production and growth rates for countries in the Eastern and Southern Africa (ESA)

region. There are significant variations across countries, with **Ethiopia** recording the highest annual cereal production at approximately 19.5 million tons, followed by South Africa at around 15 million tons. At the other end of the scale, Rwanda and Eswatini produce less than one million tons annually, largely reflecting their smaller land areas and limited arable land resources.

Despite their smaller production volumes, countries such as Rwanda, Eswatini, and Malawi have achieved above-average growth rates in cereal output, suggesting that productivity and area expansion efforts are beginning to yield results. The larger producers, by contrast, exhibit slower growth, reflecting already high production bases and, in some cases, market and climatic constraints.

To highlight underlying patterns and reduce year-to-year volatility in the data, the cereal growth rates in Figure 14 were smoothed using a three-year moving average method. This approach helps reveal medium-term trends while minimizing the effects of short-term fluctuations caused by weather variability or market shocks.

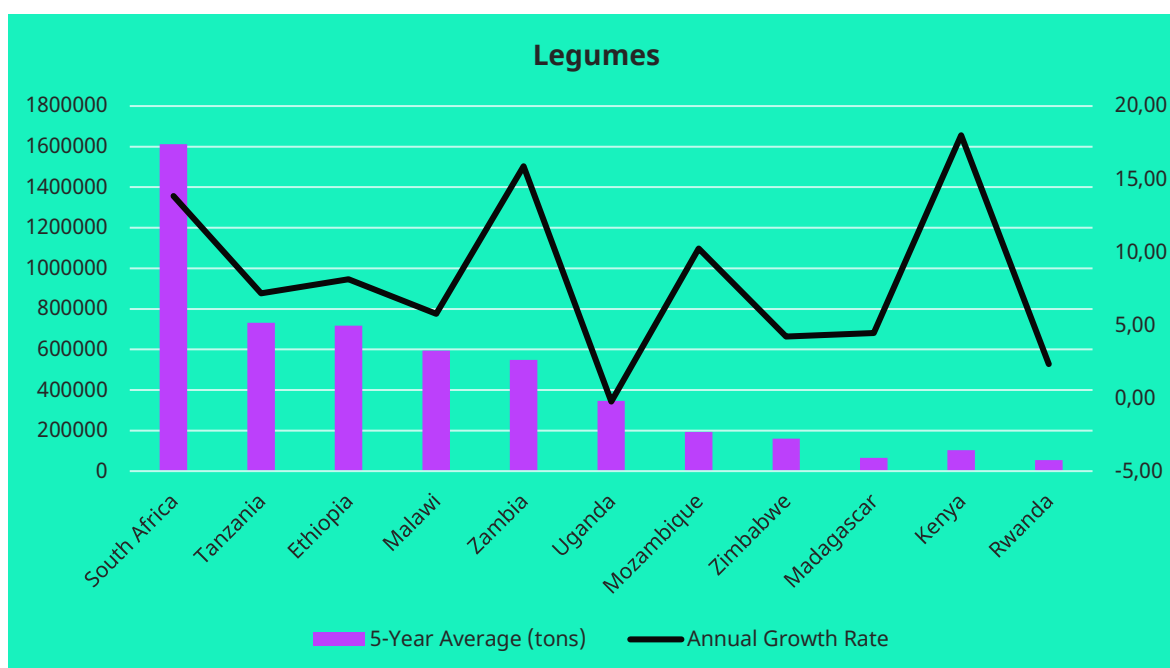


Source: Authors, with data from (World Bank, 2024)

Figure 14: Production and growth rates for cereals

The average growth rates for legumes are generally above 5% across the specified countries and production levels vary from less than 100,000 tons in Rwanda to just above 1.6 million tons in South Africa (**Figure 15**).

The growth rates in Uganda, Mozambique, Zimbabwe, and Rwanda need to increase in order to ensure that the countries continue to supply the respective countries with the much-needed nutritious diets, a focus of the food systems approach to agricultural transformation.



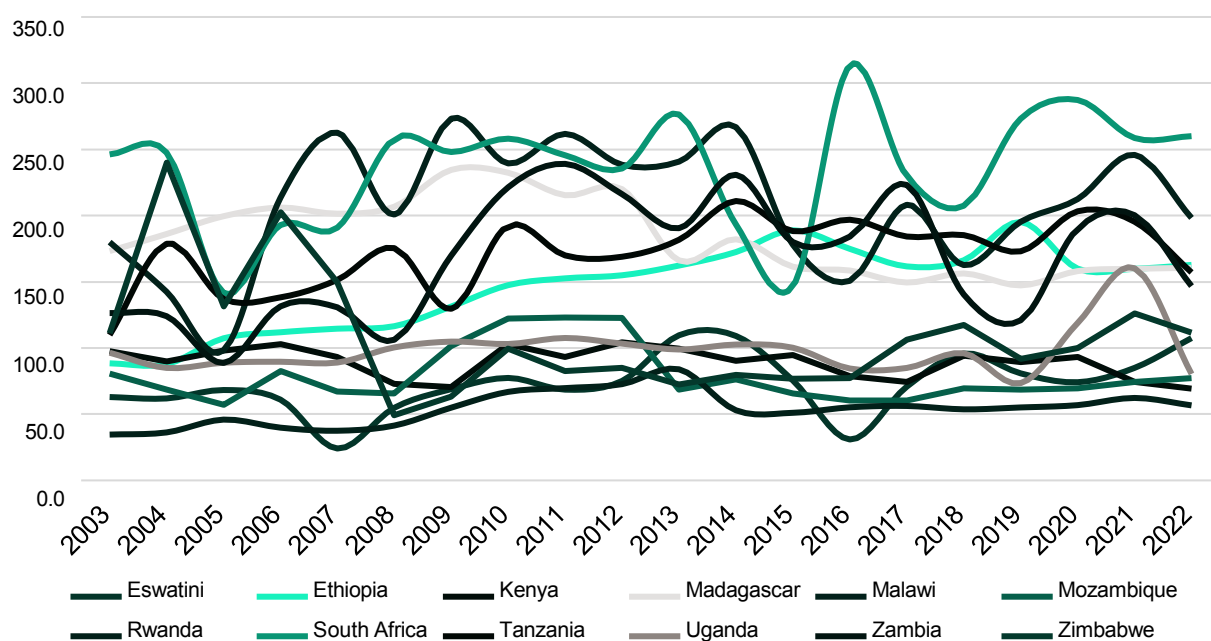
Source: Authors, with data from (World Bank, 2024)

Figure 15: Average growth rates and production for legumes

Per capita Crop Production Trends

Since cereals are a measure of food sufficiency for many of these countries, per capita production of cereals can describe the state of food security in a country. **Figure 16** shows per capita cereal production in the ESA and it is clear that there are annual and cross-country variations in per capita production. Generally, cereals per capita fell below the minimum requirement of 300 kg per person, which signifies food insufficiency especially because cereals constitute the bulk of food consumed in the region.

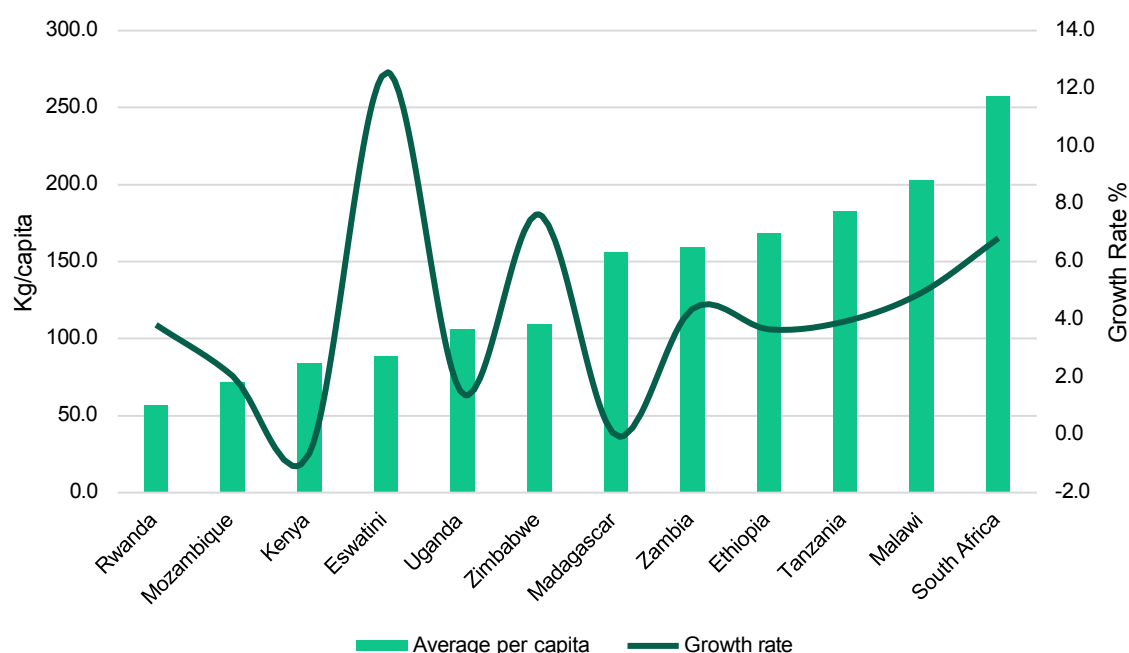
The minimum annual requirement for a human being is 300 kg of cereal equivalents per person per year (Buringh and Van Heemst 1977). Not surprisingly, the region imports over 80 kg per person to meet its dietary needs. South Africa, Malawi, Madagascar, Zambia, and Tanzania produce around 240 kg per person, which is lower but closer to the recommended threshold of 300 kg per person.



Source: (World Bank, 2024)

Figure 16: Cereal per capita trends

The least producers of maize per capita are Rwanda, Mozambique, Uganda, Kenya and Zimbabwe where per capita production stood at under 100 kg per person indicating food insufficiency. However, it is worth noting that cereal production growth rates are positive for many of the countries (7).



Source: Authors with data from (World Bank, 2024)

Figure 17: Growth rates of cereals production per capita (2003-2022)

While each of these countries is strong in cereal and legumes production, there are also efforts to produce diverse numbers of crops from tobacco to coffee, cassava to cashew nuts and many others (**Table 1**).

In summary, the share of maize in food and agriculture in general is still high in many of the countries under study. Equally, the share of land allocated to maize is still high. In each of these countries, maize is often grown together with legumes and other crops, but it remains a key source of calories, although Matoke is also very prevalent in the case of Uganda.

There are attempts to diversify (see **Annex 1**), but cereals dominate. It is also observed that while growth rates of cereals and legumes are positive over the past 20 years, the growth is slower such that for many of these countries, cereals per capita trail the recommended 300 kg per hectare.

Livestock performance

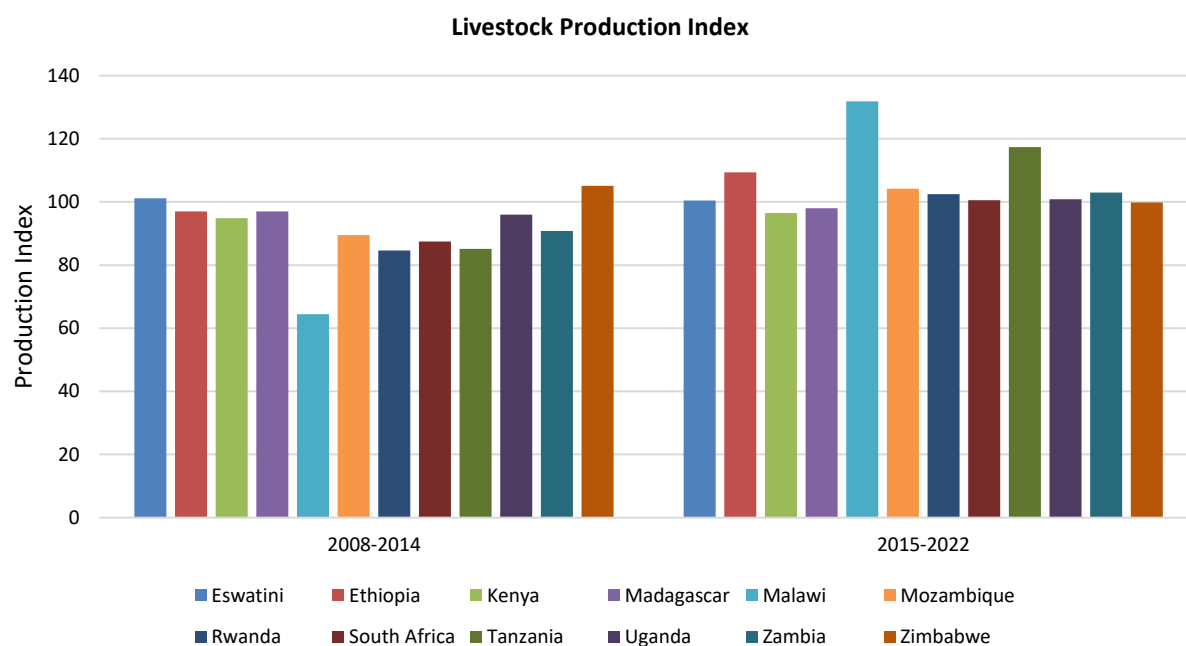


Figure 18: Livestock production

Source: Authors with World Bank data

The Livestock Production Index (LPI) measures changes in the volume of livestock output relative to a base period. It is compiled by the World Bank from FAO production data and is calculated as a weighted average of production quantities for key livestock products, including meat, milk, eggs, and wool, with weights based on internationally consistent average prices.

The base value of 100 corresponds to the average production level during the reference period 2014–2016, meaning that values above 100 indicate growth in total livestock production relative to that base year.

As shown in Figure 18, livestock production increased during the Malabo era (2015–2025), with many countries reaching or exceeding an index value of 100, signifying positive growth relative to the baseline. However, the rate of increase differs across countries, reflecting differences in feed availability, animal health services, breeding quality, and access to markets.

Sustained improvement in livestock productivity will require greater investment in veterinary services, animal nutrition, breeding programs, and water infrastructure, as well as better integration of livestock into crop and value chain systems.

Expanding this subsector is also vital for nutrition outcomes, given its contribution to dietary protein and household income diversification.

Interlinkages between selected indicators

Throughout this chapter we have tried to allude to the importance of the trends and have made allegations of their importance. This section presents some correlations between a number of indicators that are assumed to have reinforcing relationships from a theoretical and practical perspective.

Figure 19 shows that land productivity has a positive relationship with fertilizer usage per hectare and so does labour productivity. Thus, investing in soil health has the potential to improve labour and land productivity, which in turn will increase agricultural production and impact on income and population health.

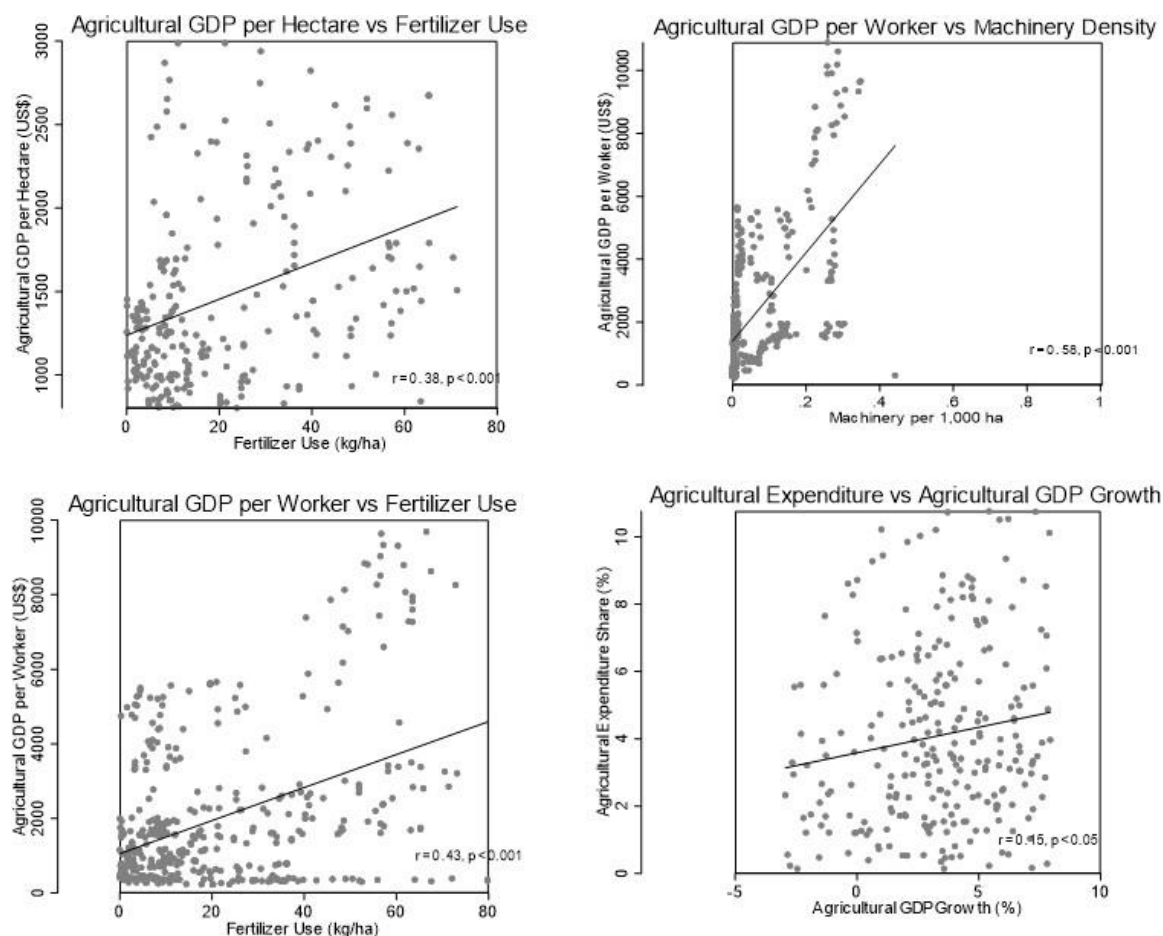


Figure 19: Agricultural GDP, Fertilizer and Mechanization

Source: Authors with World Bank data

Similarly, increased investment in farm mechanization is associated with higher labour productivity, as illustrated in Figure 19. Although the relationship is correlational rather than strictly causal, the positive association indicates that improving access to appropriate machinery and equipment can significantly contribute to agricultural transformation. To effectively boost agri-food systems transformation, investment in mechanization must therefore be intensified from its current low levels, as discussed earlier.

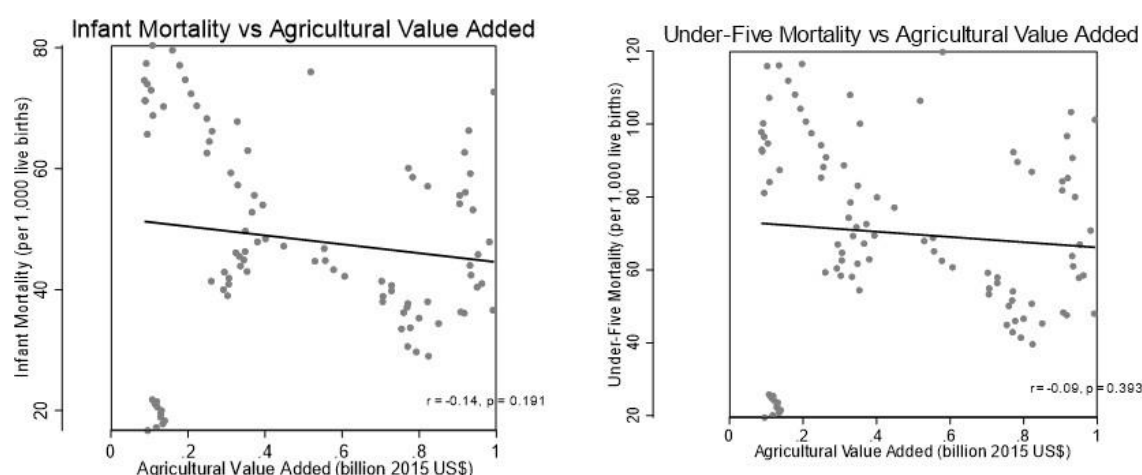
The effect of public expenditure can also be observed in the bottom right panel of Figure 19. A higher share of public spending on agriculture is consistently associated with stronger agricultural sector growth rates. This underscores the complementary role of targeted public investment in both capital formation and mechanization in driving productivity and structural change across the region.

Agricultural growth is important owing to its impacts on many other outcomes including infant mortality and income per capita, wealth creation and distribution, household resilience as well as malnourishment.

In **figure 20** it is clear that agricultural GDP as well as GDP growth are correlated with a lower infant mortality. Similarly, agricultural GDP growth rates are associated with under 5 mortality reduction.

Improvements in child health are often supported when the agricultural sector performs well and provides sufficient, nutritious, and affordable food. However, the relationship is not always direct. In some contexts, health outcomes have improved even when agriculture's contribution to national output has declined, owing to gains in income diversification, better health services, and targeted nutrition programs.

Nevertheless, in much of Eastern and Southern Africa, where agriculture remains a major source of food and livelihoods, strengthening the sector continues to be an important pathway for enhancing household nutrition and child well-being.



Source: Authors with World Bank data

Figure 20: Agriculture GDP, infants and under 5 mortality rates

2.5 Conclusions and Recommendations

Agricultural transformation in Eastern and Southern Africa faces several challenges. Climate change continues to affect production, processing, storage, and trade, with frequent droughts and floods disrupting value chains and infrastructure. Many countries, including Malawi, Mozambique, Rwanda, and Zambia, need to strengthen efforts to protect agriculture from climate shocks through greater investment in adaptation and risk management.

This chapter assessed agricultural performance across five key pillars: the enabling environment, input use and technology adoption, investment and financing, trade and value addition, and human capacity and institutional development.

The findings show that progress is uneven across these areas and that improvement in all five pillars is required for inclusive and resilient agricultural growth.

Improving the enabling environment:

The enabling environment, which includes policies, institutions, macroeconomic stability, and infrastructure, remains weak in many countries. Inflation, exchange rate volatility, and high interest rates continue to constrain agricultural investment. Countries should stabilize their macroeconomies, reduce inflation, and make credit more affordable.

Adopting regular joint sector reviews in line with the Comprehensive Africa Agriculture Development Programme (CAADP) and the forthcoming Kampala Declaration will strengthen accountability and attract new investment.

Enhancing input use, technology adoption and digitalization:

Accelerating the use of high-quality agricultural inputs remains essential for raising productivity and resilience. Many countries have not yet fully exploited the opportunities offered by irrigation, mechanization, and digital technologies. The region should therefore invest in machinery, irrigation systems, and supportive infrastructure such as energy and reliable internet connectivity. These actions are consistent with the CAADP and Malabo Declaration commitments that emphasize modernization through science, technology, and innovation.

The recommendation to accelerate the digitalization of agriculture builds directly on these policy frameworks. Digital tools can enhance access to inputs, improve advisory services, and strengthen monitoring of public investments. Expanding mobile-based platforms for extension, digital input marketplaces, and data-driven decision systems would improve efficiency, inclusion, and accountability in the agricultural sector.

Expanding agricultural finance and research: Few countries have reached the ten percent agricultural budget commitment of the Maputo and Malabo Declarations. Innovative financing through private investment, blended finance, and foreign direct investment should be promoted. Public spending on agricultural research and development should also move toward the target of one percent of agricultural GDP, since innovation underpins sustainable productivity growth.

Strengthening trade facilitation and agro-processing: Trade and market access are essential for sustaining growth and reducing postharvest losses. Countries should prioritize trade facilitation by improving transport and border infrastructure and removing tariff and non-tariff barriers such as road checks, border delays, and trade bans. Investment in agro-processing will extend the shelf life of commodities, create jobs, and increase value addition within the agricultural sector.

Developing human capacity and institutional strength: Agricultural transformation also depends on skilled people and effective institutions. Low agricultural labour productivity, which averages below USD 500 per worker per year in much of Eastern and Southern Africa, reflects limited skills and low access to capital. Expanding farmer training, vocational education, and extension services will raise productivity and improve technology adoption. At the institutional level, investment in data systems, research coordination, and implementation capacity will strengthen planning, monitoring, and accountability across the agricultural sector.

In conclusion, achieving sustained transformation in the region requires coordinated progress across all five pillars: a stable enabling environment, improved input and technology adoption, adequate financing, efficient trade and value addition, and strong human and institutional capacity.

The next chapter shows how regional trade integration and diversification can help address these constraints and unlock broader market opportunities for resilient and inclusive agricultural growth.

The analysis of agricultural performance highlights the structural, institutional, and macroeconomic challenges that continue to limit productivity in the region. However, improving agricultural outcomes is also closely tied to market access and trade.

Chapter 3 explores how regional trade, and agricultural diversification can address these challenges, identifying pathways to expand market opportunities and enhance food system resilience

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