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The relative neglect of agriculture in Mozambique

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Abstract: This paper explores agricultural performance of Mozambique, its institutional weaknesses, and the underlying factors that underpin an unsatisfactory performance during many decades. We point to the role of systemic political instability and violence combined with challenges to state legitimacy. Regional divides and lack of market integration continue to influence in a critical and all-encompassing manner. Finally, the way in which the interests of the elite and the influence of donors have affected progress in the agriculture sector suggests the need for concerted reorientation in existing strategies, policies, and priorities. This is reinforced by future challenges, including the extractive industry; population growth and internal migration; national and international markets; climate change; and COVID-19. We highlight the need to place the future of agriculture in Mozambique within a long-term perspective, focusing on the adoption and stabilization of an institutional framework aimed at increasing agricultural productivity and preserving the environment.

Key words: agriculture, environment, institutions, agricultural policy, productivity

JEL classification: Q01, Q15, Q16, Q18

Note: table at the end of the paper

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1 Introduction

The Constitution of the Republic of Mozambique¹ (Article 103) stipulates: ‘agriculture shall be the basis for national development’, and ‘the State shall guarantee and promote rural development in order to meet the growing and diverse needs of the people, and for the economic and social progress of the country’. Moreover, Article 105 about the family sector² highlights that ‘the family sector shall play a fundamental role in meeting the basic needs of the people’, and that ‘the State shall support and provide incentives for family sector production, and shall encourage peasants as well as individual workers to organize themselves into more advanced forms of production’. This reflects that the large majority of the Mozambican population—about 65 per cent—lives in rural areas, and rural areas are home to about 75 per cent of the poor (DEEF 2016).

Moreover, in rural areas, agriculture is by far the most common economic activity.³ Yet, those families whose head works in agriculture present poverty incidence rates that are substantially higher than for the rest of the population (Castigo and Salvucci 2017). Importantly, the poverty-growth elasticity for agriculture is three times higher, compared to that of other sectors (World Bank 2019). Accordingly, the Mozambican Ministry of Economics and Finance concludes in the Fourth National Assessment of Poverty and Well-Being that: ‘[...] the findings in this report inescapably imply that future dynamics in smallholder agriculture [...] will be of fundamental importance to achieving continued broad-based progress in welfare enhancement over at least the next decade and likely longer than that’ (DEEF 2016).

Nonetheless, the gap in the poverty incidence between rural and urban areas has widened in recent years, from 7 to about 13 percentage points,⁴ and regional imbalances between southern, central and northern Mozambique have developed unfavourably (Egger et al. 2020). Other well-being indicators such as access to safe water sources, quality sanitation, electricity, etc., are also disproportionately concentrated in urban versus rural areas and along regional (north, centre and south) lines, raising concerns about the model of development followed and the inherent sector prioritizations.

At a macroeconomic level, agriculture remains among the most important economic sectors, contributing to about a quarter of Mozambican GDP and occupying more than three quarters of the population.⁵ At the same time, only 6 per cent of the state budget expenditures is allocated to the sector, well below the African Union commitment of 10 per cent (Nova et al. 2019: 6).

Jensen and Tarp (2004) demonstrate the clear socio-economic benefits of following an Agricultural Development Led Industrialization (ADLI) strategy in the case of Mozambique. The basic arguments are articulated in Adelman (1984) and were successfully pursued in Ethiopia in more recent decades (see Stifel and Woldehanna 2016, and references therein). This strategy views

¹ See https://www.constituteproject.org/constitution/Mozambique_2007.pdf?lang=en.

² The small farmer agriculture sector is in Mozambique and in Portuguese referred to as ‘o sector familiar’, i.e. the family sector. We use family sector and family farm sector interchangeably in what follows.

³ About 76 per cent of rural household heads declare to be peasants (DEEF 2016).

⁴ The poverty rate for rural areas was 54 per cent in 2008/09, and it went to 50 per cent in 2014/15, whereas the poverty rate for urban areas was 47 per cent in 2008/09 and went to 37 per cent in 2014/15.

⁵ This proportion has hardly moved over time, raising concerns about the process of structural transformation in the country.

‘agriculture as the engine of growth, based on its potentially superior growth linkages, surplus generation, market creation and provision of raw materials and foreign exchange’ (Teka et al 2013: 947). More specifically, it includes a major public investment programme to shift the supply curve of agriculture as an integral element of an overall growth and employment programme keeping in mind that agriculture is by far the most labour-intensive production sector (Adelman 1984). Simultaneously, the ADLI approach contributes to poverty reduction and increased food security. Jensen and Tarp (2004) bring out these synergy effects from pursuing balanced agricultural and agro-industrial development in a general equilibrium context, and show that primary sector export-oriented progress represents a potential significant set of complementary actions.

From a different methodological approach, taking into account both supply- and demand-side factors,⁶ Sørensen et al. (2020) confirm that priority should be given to agriculture, agro-industry, and metal products, especially when the potential for structural transformation and export growth are considered simultaneously.

Turning to the economic performance of the agriculture sector, broad consensus exists about a few stylized facts.

- First, productivity has been stagnant for most staple crops, both per hectare and per capita, over a very long time-period, associated with the fact that the median plot size is only about 0.5 hectares.
- Second, the quality and level of public support services for farmers are far from adequate. Excluding some cash crops like cotton or tobacco, fertilizer and improved seed use is very limited, and access to credit and to extension agents is severely constrained. Moreover, the public institutions in the agriculture sector have delegated the responsibility for direct liaison with small farmers to companies, NGOs, and projects. Thus, by design, the implementation capacity of the public service is limited in scope and coverage, and depends on private, other domestic and foreign interests.
- Third, despite its weight in food production and land use, the family farm sector lacks critical access to inputs and output market outlets. Market access and integration are severely constrained and in many cases non-existent due to the absence of infrastructure (transport and storage, etc.). Moreover, a gamut of market failures is widespread in the family sector, delinking farmers from market processes and access to credit to promote, process and store production of agricultural products.
- Fourth, exposure to risks and price volatility remains very high. While the concerns with price volatility attracted much attention during the 2007/08 food price crisis (see Nhate et al. 2014), the risks associated with climate shocks and climate change have become increasingly clear and relevant in recent years, as demonstrated by the catastrophic effects of cyclones Kenneth and Idai.

All these elements reflect that Mozambique’s agriculture is mostly subsistence agriculture. Commercial agriculture exists, and while expanding in relevance and scope, it remains confined to a few geographic areas and to a limited number of crops.

The aim of this paper is to put the weak performance of the agriculture sector in perspective and identify underlying factors for this state of affairs, focusing on institutional instability and the

⁶ In their supply-side analysis, they use network methods to identify a set of target products that are complex, require productive capabilities useful in the export of other products, and are close to Mozambique’s existing productive structure, while they rely on gravity models to predict the export potential of target products and markets given product-specific trade resistance and geographically dispersed demand in their demand-side analysis.

inability of the State to provide basic services to small-scale farmers in the family farm sector. One core argument is that frequent organizational changes compromised the ability of key stakeholders to plan, structure, consolidate and promote dialogue, from central to local levels. Key conclusions include that it is imperative to pursue a concerted reorientation in existing strategies, policies and priorities. This is so especially in light of the upcoming revenue from natural resource extraction, which offers both socio-economic risks and opportunities (see Page and Tarp 2020).

We organized the paper as follows.⁷ Section 2 reviews the agriculture economy and its performance in some detail, while section 3 discusses existing institutional weaknesses. Section 4 brings out the underlying factors, and section 5 reflects on future challenges and provides some policy considerations.

2 The agriculture economy

Mozambique inherited at independence in 1975 a distorted economy characterized by:

- Economic integration with neighbouring countries in which Mozambique was to a large extent a service economy dependent on the provision of transport services and the supply of migrant labour.
- Production of primary commodities for export (cashew, cotton, sugar, copra and tea), linked to some elementary processing industries.
- A colonial system based on temporary migrant labour to the mines in South Africa and with internal production oriented toward meeting settler needs. A foreign commercial sector had managed this economy through direct production and ownership of modern farms, including marketing control of cash crops produced by the traditional sector and control of food imports.

Concerted efforts took place after independence to transform this system, but the introduction of state farms to take over farms abandoned by the colonial settlers collapsed. More recently, a commercial subsector has started to emerge, characterized by growth in capital-intensive investment, production, and productivity. Private investment is mainly foreign, aimed at export crops and to a lesser extent supplying large urban consumer centres. However, this sector remains incipient and small.

In contrast, the small farmer sector is responsible for 99 per cent of the cultivated area and 95 per cent of food production. It includes two-thirds of the country's working population, who have limited job opportunities outside of agriculture (Jones and Tarp 2012). The family agriculture system is expanding through an increase in the number of farms, which are getting smaller (Mosca and Nova 2019). This reflects demographic dynamics without increasing the total area, and low use of technologies to increase productivity, vulnerability to weather variations and an annual loss of forests estimated at 3 to 4 per cent of the cultivated area. The level of food insecurity remains high as does the number of vulnerable people (Egger et al. 2020), though food insecurity fell from 34.8 per cent in 2006 to 23.7 per cent in 2013 (MASA website⁸). Major food crops in the family sector are cassava, maize, groundnuts, cowpeas, sorghum and millet, representing an overall

⁷ For further background, statistics and analysis we refer to Carrilho and Ribeiro (2020).

⁸ See <https://www.agricultura.gov.mz/estatisticas/san/>.

majority of the food energy intake at the national level, and with little overall progress over the past two decades.⁹

There are ample water resources in the country especially from the river systems (such as the Zambezi, the Save, or the Limpopo) and from irregular rainfall. The latter is a determinant of the variation in cropping practices and thus a big cause of food insecurity. Due to their more regular rainfall, ample land and fertile soil, the northern and central areas of the country are more suitable for intensive farming. In contrast, rainfall is less predictable and scarcer in the southern regions, where extensive agricultural practices and animal husbandry are more prevalent. Furthermore, the country is abundant in terms of energy, water, forest, mineral and marine resources.¹⁰

The above lack of progress is highlighted in MASA (2016: 10) where it is noted that ‘comparing the economic conditions in 2015 with three years ago, 20.9 per cent of the farms said there had been an improvement, 32.3 per cent believed economic conditions were neither better nor worse, and 46.8 per cent said that they were worse’.

Turning to other recent trends,¹¹ over the last 10 years, while there was an increase in the number of farms, accompanying population growth, the total cultivated area did not increase proportionally (MASA 2015: 22; MASA 2016: 22). While rural-urban migration does indeed occur, the increase in the urban population is mainly driven by natural growth (Hansine and Arnaldo 2019: 307).¹² Moreover, per capita production of food declined, as did productivity per hectare of food crops; total livestock increased, but only for poultry meat, and there was an increase in per capita consumption. In fact, between 2010 and 2017, per capita production of some foodstuffs, such as cereals, fell to almost half. At national level, the yield per hectare of food crops also declined (see Table 1¹³). The reduction in productivity between 2012 and 2015, more pronounced in 2013, was most probably due to floods, pests and lack of rain (MASA 2015: 38; MASA 2016: 46–48), in addition to the general socioeconomic context, including the macroeconomic crisis (see Egger et al., 2020). Another element is the increase in deforestation, resulting from the low levels of adoption of sustainable technologies, unsustainable farming practices and the expansion of human settlements.

⁹ See, for example, Amaral et al. (2020) and the annual Agricultural Statistical Yearbooks (MASA 2012, 2015, 2016).

¹⁰ This paragraph relies on Tarp et al. (2004).

¹¹ Agricultural production performance is measured as an approximation to the function of providing food safety, according to studies carried out by the Rural Environment Observatory (OMR) (Carrilho et al. 2016; Abbas 2017; Mosca and Nova 2019). The main data sources used by these authors are the official statistical yearbooks, based on agricultural surveys (Agricultural Survey Project—TIA; Integrated Agricultural Survey—IAI) (MASA 2012; MASA 2015; MASA 2016; INE 2017), and statistical data from the FAO, some of which are estimated (<http://www.fao.org/faostat/en/#data/QC>, accessed 24 October 2019). The statistics published by the Ministry of Agriculture and Food Safety (MASA) are also taken into account (see <http://www.agricultura.gov.mz/estatisticas/>, accessed 14 July 2020). The www.agricultura.gov.mz address belongs to the Ministry of Agriculture and Rural Development (MADER), which replaced MASA in February 2020. In June 2020, its website replaced the previous <http://www.masa.gov.mz>, which was accessed by the authors in October 2019 in order to prepare this study. Given that the previous address is now inactive, it is the new website that will be referred to throughout the text. Regarding the history of MADER and its predecessors, see Notes 14 and 18 below.

¹² While rural-urban standards of living are different, internal migration is discouraged by limited availability of jobs, high costs of living, low connectivity and inefficient land markets.

¹³ The table includes data on crops generally included in the Agricultural Statistics Yearbook, including roots and tubers. Note that the priority crops in the African Union (AU) are rice, corn, sorghum, millet, vegetables, cassava, cotton, palm oil, beef, dairy products, poultry and fish (AU/NEPAD 2017: 24).

We highlight that climate change also impacts agricultural performance. In 24 of the last 43 years, from 1976 to 2019, extreme and moderate climate events were recorded, including cyclones, storms and tropical depressions, floods and droughts or lack of rain (MICOA 2007: 23; Mandamule 2019: 2). The slow recovery from these events is a clear sign of lack of resilience and of vulnerability of the family farm sector, and it hampers their transition to commercial agriculture as farmers minimize risks.¹⁴ This draws attention to the existing low level of irrigated agriculture and the weak efforts to prevent post-harvest losses.

Productivity did improve in some large and medium-sized farms and examples of successful contract farming and out-grower schemes between large and medium-sized processing and marketing companies and small farmers do exist in cotton and tobacco (Mucavel 2018: 6, 10). While potentially relevant for future growth and employment creation, these private sector schemes only involve between 10 and 20 per cent of the around 4 million small family farms (MASA 2016: 41, 49). Furthermore, there is evidence that most existing contract farming and out-grower schemes only work for certain commodities in certain markets (Minot 2007) and therefore cannot be generalized across the agriculture sector.

Private investment in agriculture and agroindustry represented 21 per cent of the total private investment between 2001 and 2017 (Mosca and Nova 2019), with 61 per cent of this coming from loans, 32 per cent from direct foreign investment and 7 per cent from direct national investment, located mainly in Zambézia and Gaza provinces. The proportion of credit to agriculture over total credit to the economy went from around 18 per cent in 2001 to around 3.5 per cent in 2017, 60 per cent of which went to large-scale sugar, cotton, cashew, tea and copra production, as well as livestock and forestry, i.e. overwhelmingly for un- or semi-processed exports.

In spite of the importance of the agriculture sector in the economy, there is a systematic and increasing trade deficit in food and agriculture products and food production is insufficient to meet the needs of the population (Abbas 2017: 23). The main agricultural exports between 2001 and 2017 were tobacco, sugar, cotton, cashew, and sesame, representing around 88 per cent of total exports, while maize accounted for 3 per cent of exports during this time. Rice and wheat are the main agricultural imports, representing some 40 per cent of food and agriculture imports in the period since 2001 (Mosca and Nova 2019). Coinciding with a poor harvest and a reactivation of conflict in 2013-2014, the trade deficit for food and agriculture was critical in that year (Mosca and Nova 2019: 16).

In sum, during the 1990s, the return of millions of refugees to agricultural production led in Mozambique to recovery from war and from a very low level of agricultural output. However, the experience of the agricultural sector in the first decade after the turn of the millennium became a disappointing one. With reference to this period, Arndt et al. (2012: 858) highlight that ‘agricultural production shows only weak aggregate growth. When adjusted to take into account either the expansion of cultivated area or population growth, the conclusion is that agricultural productivity in the smallholder sector has remained stagnant over time.’ Furthermore, the contribution of the agricultural sector to GDP fell by five percentage points between 2010 and 2017.¹⁵ The agricultural sector was neglected and the small peasant farmers were left behind in relative terms.

¹⁴ See Salazar-Espinoza et al. (2015), who show that floods and droughts affect cropland decisions.

¹⁵ See <http://www.ine.gov.mz/estatisticas/estatisticas-economicas/contas-nacionais/anuais-1/pib-na-optica-de-producao/pib-na-optica-de-producao-2020/view> (accessed 14 July 2020).

3 Institutional weaknesses

Mozambique has, over the past decades, experienced high aggregate economic growth. However, its performance in terms of agriculture progress remains, as noted above, an Achilles heel in relation to aggregate agriculture growth, food security, poverty reduction, inequality and increasing regional and rural-urban imbalances. We explore in this section a set of key institutional weaknesses that help explain this poor performance, recognizing that a variety of underlying factors, to which we turn in section 4, form part of a more complete picture and comprehensive institutional diagnostic.

3.1 Organizational instability and incapacity to implement plans and policies

The organizational set up in the agricultural sector has undergone almost constant change during recent decades in an effort to respond to a plethora of plans and policies. To illustrate, the ten-year period between 1995 and 2005 saw an excessive number of newly approved policies, strategies and structuring laws, particularly in the area of natural resources, both renewable and non-renewable, including Land, Forests and Wild Fauna, Land Use Planning, the Environment, Conservation, Mines and Oil acts (Chiziane 2015: 29), some with provisions conflicting with existing structures and ways of operating. Furthermore, from 2005 to 2013, a long series of plans and strategies for sectoral development were formulated and approved to bring about change in focus and priorities in the agriculture sector. They included:

- the Rural Development Strategy (EDR);
- the Green Revolution Strategy;
- the Strategic Development Plan for the Agricultural Sector (PEDSA) (MINAG 2011);
- the National Investment Plan for the Agricultural Sector (PNISA) (MINAG 2013a; MASA 2018);
- the Support Plan for Intensification and Diversification of Agriculture and Livestock (IDAP),
- the Action Plan for Food Production (PAPA);
- the Agricultural Marketing Strategy;
- the Integrated Agricultural Marketing Plan (PICA), described as an instrument for the implementation of PEDSA;
- the Master Plan for the Development of Agribusiness (PDDA); and
- many others (Mosca 2011: 239–269; Granheim 2013: 47).

Along with these changes, government responsibilities and authority were frequently moved around among ministries and agencies, particularly in the areas of land, marketing, light industry and food, irrigation and promotion. The instability and often inconsistency and overlapping or competing mandates cascaded down to the lower levels, with the set-up, closure and transformation of commissions or national boards, state secretariats and autonomous funds. Similarly, the duties of agricultural marketing, land and forest administration, and the promotion

of rural development were regularly transferred between ministries.¹⁶ A parallel process took place in the areas of domestic and foreign trade, industry, and tourism.¹⁷

These vicissitudes totally overburdened the existing human and organizational capacity, and detracted attention away from the provision of core public support services for agricultural development at local level. In addition, there was deconcentration and decentralization of powers and responsibilities, particularly at provincial, municipal and district levels, from 2004, with the approval of the regulations¹⁸ for the Local Government Act (LOLE)¹⁹ and other legal documents (Mosca and Bruna 2016: 23–31).

The functioning of the agriculture sector has, as well, been influenced by favouritism and economic interests (Bruna, 2017) linked to powerful social groups. Indications are that this favouritism takes place through protected public officials who establish links between the central state and the regional law, on the one hand, and customary local and general rules, which are not always written down or democratic, on the other.

The Ministry of Agriculture and Rural Development (MADER) is currently²⁰ the main public organization responsible for the agricultural sector. The Ministry of Land, Environment and Rural Development (MITADER) co-existed with the Ministry of Agriculture and Food Security (MASA) until the new government took office in 2020. At this point in time rural development became the responsibility of MADER, while land and environment came under a separate ministry. While both MASA and MITADER were represented at provincial level, representation at district level has been neither uniform, nor is there a direct subordination relationship in the ongoing decentralization process in the country. The organizational changes in the agricultural sector reflect a bewildering combination of underlying factors, to which we return below.

In spite of all of the above, the state budget allocation to the agricultural sector has for decades hovered around 4 per cent, moving up to 6 per cent in 2019, which is well below the African

¹⁶ The different earlier ‘versions’ of the ministry responsible for the agricultural sector were successively created by Decree No. 1/1975, of 27 July, Presidential Decree No. 2/1994, of 21 December; Presidential Decree No. 1/2000, of 17 January; Presidential Decree No. 13/2005, of 4 February; Presidential Decree No. 1/2015, of 16 January. The duty of supervision of agricultural marketing was transferred to the Ministry of Internal Trade in 1978 and, in 1981, AGRICOM EE (state agricultural trade company) was set up. In 1994, this gave way to the newly created Institute of Cereals of Mozambique (ICM) and the Agricultural Marketing Fund (MIC 2013: 12). In 1994, the Ministry of Agriculture and Fisheries (MAP) was also set up. In 2000, MAP gave way to the newly created Ministry of Agriculture and Rural Development (MADER), which also absorbed the Rural Development Institute (INDER). The Ministry of Agriculture (MINAG) returned in 2005 and was followed by the Ministry of Agriculture and Food Safety (MASA) in 2015. The Ministry of Land, the Environment and Rural Development (MITADER), set up at the same time as MASA, took over responsibility from the Ministry of Agriculture for the management of Land and Geomatics, Forests and Wild Fauna and Rural Development, this last being reintegrated into MADER, set up again in 2020.

¹⁷ See <https://www.mic.gov.mz/por/pocas/HISTORIAL-DO-MIC> (accessed 24 October 2019). The Ministry of Industry and Trade became the Ministry of Industry and Energy and the Ministries of Domestic Trade and Foreign Trade in 1983, the Ministry of Trade in 1986, the Ministry of Industry, Trade and Tourism in 1995, and, again, the Ministry of Industry and Trade in 2000, with readjustments every five years.

¹⁸ Decree No. 11/2005, of 10 June.

¹⁹ Law No. 8/2003, of 19 May.

²⁰ The new Ministry of Agriculture and Rural Development (MADER) was set up in 2020. The Ministry of Land and the Environment (MITA) was also set up at this time. This study began in 2019 when the Ministry of Agriculture and Food Safety (MASA), which will be referred to frequently, still existed.

Union commitment of 10 per cent (Nova et al. 2019: 6).²¹ Apart from the allocation being below the goal, the same authors (GdM and NEPAD 2017: 8–9) show that the investment aimed at institutional support and production support has been declining since 2012.

3.2 Competing approaches to agricultural transformation

We have already discussed the frequent restructuring of ministerial organizations and their policies. This has led to a sense of randomness which is associated with the existence of competing approaches to agricultural transformation. While there is widespread consensus around the desire to see rapid modernization, there is, in fact, disagreement on how to promote agricultural development in practice.

In effect, there are two sides to this debate:

- (i) One defends accelerated modernization based on the industrialization of agriculture and buying technology, with little attention paid to what it takes to transform small peasant farmers into commercial companies. The focus in this option is based on mechanical reading of experiences from elsewhere in combination with little attention to history and context. It is based in part on the belief that small family farmers do not really respond to economic stimuli, and that they are incapable of modernising without the intervention of the state. The other part of this perspective is that intervention should take place through projects and programmes where focus is on already established companies, whether agricultural, agro-industrial, state, cooperative or private. It is systematically highlighted that medium-sized and large farms have higher yields than small farms (Mucavel 2018: 6, 10), to highlight the importance of prioritising the former to the detriment of the latter.
- (ii) The other side argues that the modernization of agriculture comes as a result of the modernization of the entire society, and that it is not exclusively sectoral and depends on the political, social and economic context of the country. It is not enough to buy technology, no matter how successful this may have been in other contexts. Put differently, this approach is based on small farmers being capable of modernising, by participating in the development and adoption of the most appropriate technology for each place and time, to the point of increasing their participation outside the agricultural sector, provided they have access to the resources and the rights needed for this.

The first perspective has been gaining the upper during the last decade. While we noted the lack of success of the attempts at modernization and agrarian transformation in the immediate post-independence years, there are, in fact, recent programmes and projects with positive impacts in terms of increasing productivity. They are, however, linked to specific geographic locations and groups involved. National indicators show that these interventions and the associated changes in policies and organizations do not seem to have influenced family farming, when it comes to their productivity, the generalized adoption of environmentally friendly technologies or developments in the total volume of food production.²²

²¹ GdM and NEPAD (2017) confirm non-compliance with this goal though estimating slightly different budget allocations for the agricultural sector due to different classification criteria.

²² According to GdM and NEPAD (2017: 14), the value added growth rate is estimated at, on average, 2.14 per cent (with MASA believing that this indicator was at risk of non-compliance at the time). There are also indications that

3.3 Low quality and quantity of public service delivery

With all of the above organizational efforts, the aim was that the Mozambican government should be able to assume and perform in its assigned role, guiding and supporting agricultural development in an effective manner, including having the capacity to plan, implement and negotiate with other agents in the sector. This was so at least for the principles adopted in 2003 in Maputo, by the African Union (AU) Summit, when it made its first declaration on the Comprehensive Africa Agriculture Development Programme (CAADP) as an integral part of the New Partnership for Africa's Development (NEPAD). The CAADP was established as Africa's policy framework for agricultural transformation, wealth creation, food security and nutrition, economic growth and prosperity for all, and was adopted with the full support of the Mozambican government. This included the broad targets of 6 per cent annual growth in agricultural GDP, and an allocation of at least 10 per cent of public expenditures to the agricultural sector. This was followed in 2014 with the Malabo Declaration on Accelerated Agricultural Growth, adopted by the AU.

In practice, under-budgeting, poor use of the budget and the lack of a clear, long-term vision for the sector undermined the capacity of the state apparatus. This weakness became associated with the outsourcing of agricultural contracting schemes and development projects to NGOs and companies and agribusinesses whose participation was usually short in duration and with very limited geographic scope. In addition, the efforts made to support farmers' organizations so that they could have more bargaining capacity for negotiating prices and the terms and conditions of their production contracts were negligible.²³

Assessing Mozambique's performance against the goals of the Malabo Declaration, it stands out that, as already noted, the state budget allocation was well below the 10 per cent goal. Moreover, funding has been insufficient to put in place the necessary internal capacity as well as staff able to provide even the most basic state services in support of agriculture development. This is so for plant and animal health, agricultural research and extension, statistics, supervision and quality control, protection and development of genetic material, enforcing the law and addressing market distortions. All of these areas have not received the necessary attention whereas responding to vested interests has been in focus.

The distribution of ministry staff depends on the resources available at provincial and district level, and Nova et al. (2019) note that Zambézia, Nampula and Tete provinces, where 53 per cent of the country's cultivated land is farmed, only receive an allocation corresponding to 31 per cent of the operating budget. As to the public investment budget, this is distributed with around 24 per cent for production support, 24 per cent for extension and research and 24 per cent for institutional support. The remaining 28 per cent is earmarked for forestry, livestock, irrigation and land administration services (2019: 8).

the land productivity growth rate is increasing and may allow the goals to be met, considering the increase in the use of fertilisers to be an important step in this direction. No mention is made of quality seeds.

²³ One example of the effects of this dependence is the weak development of a seed industry promoting more competition and less dependence of the farmer on the promoter. We find that the poor development of the national seed industry is mainly due to the (i) non-existence of a specific policy to promote the integrated development of the seed chain; (ii) poor technical and financial ability in public research and the non-existence of private research to develop productive varieties adapted to the different types of agriculture (mainly family farms); and (iii) the still very low demand on the certified seed market, given that the agricultural sector consists mainly of subsistence farming, unable to access improved seeds.

The biennial assessment report on the implementation of the aforementioned Malabo Declaration goals (MASA 2017) assesses the level of CAADP progress in the country to be at 57 per cent.²⁴ Importantly, while noting some improvements, the report mentions that Mozambique is still far from reaching the goals of eradicating hunger and reducing poverty (2017: 32–34). More specifically, in relation to production assistance, the total number of extension staff was 2,025 in 2013 and 2,794 in 2018. This includes the public extension network—which increased from 1,137 to 1,863—the network of companies—which went from 281 to 510—and the NGO network, which fell from 607 to 421. The extension service currently provides assistance to around 20 per cent of farms in an irregular fashion and with few visits per farmer, for a goal of 100 per cent in 2018, according to the Malabo goals.

Overall, the poor ability to provide basic services to small farmers in the ‘family sector’ in a way that is reliable and focused on farmer needs stands out as a main shortcoming in the sector. Key associated weaknesses include a pronounced tendency to focus on the short term and rely on ad hoc, improvised restructuring at all levels, rather than developing the longer term vision and set of activities needed as part of a framework for sustained progress. The same can be said about the lack of attention to the needed decentralization of public services, including services for development of appropriate technology with a view to increasing productivity, and the absence of appropriate credit systems for small farmers.

3.4 Unequal access to justice, conflict resolution and law compliance

Generally speaking, the legislative framework concerning the agriculture sector is clear, but compliance is not assured. As already noted, the ten-year period between 1995 and 2005 was rife with approvals of reformed policies, strategies, and new laws. The ambition was that the legislative framework, in combination with the majority of customary regulations, whose application is enshrined in the Constitution, would ensure adequate access to justice and protection of farmers. Notable examples are the Land Act, frequently cited as one of the best in Africa (Tanner 2010: 105), and the Forest and Wildlife Act. However, as we shall see below access to justice is, in practice, unequal due to the structure and regulation of the system. In combination with the disproportionate power of the government and large private interests in influencing the decisions of the courts, this is a source of uncertainty for farmers.

The majority of land rights are not registered, which is not required by law and non-registration does not per se undermine this right. Currently, around 24 million hectares (DINAT 2018), or 30 per cent of the land area is registered, of which 12.3 million hectares, up to March 2019, was registered to rural communities (Topsøe-Jensen et al. 2019: 59). The majority of land conflicts are resolved by non-judicial bodies, through mediation and seeking reconciliation, promoted by the district authorities or by the Provincial Services of Geography and Cadastre (SPGC). When private companies and investors are involved, the resolution is more favourable to the communities when they are assisted by civil society organizations (Mandamule 2016: 24).

Many agricultural cases could be dealt with by the community courts, provided for in the Constitution. While found in several districts, they lack guidance and regulation.²⁵ Given their position between the formal and the informal and their links with alternative ways and means of

²⁴ Several indicators in the Biennial Report (MASA 2017) have not been calculated or their calculations are open to question. See, for example, the absence of data on post-harvest losses.

²⁵ See <http://opais.sapo.mz/muchanga-defende-regulamentacao-de-tribunais-comunitarios>, 22 July 2019 (accessed 27 October 2019).

conflict resolution (Alfazema 2015: 8), extending their powers would facilitate the legal pluralism recognized by the Constitution.²⁶

Cases that have been through the local courts of mediation are normally sent to higher administrative bodies before being presented to the courts. This fact gives government bodies at various levels disproportionate power to determine the outcome of cases in which they are in conflict with citizens. Exceptionally, when the conditions are in place, cases can be taken to higher judicial courts. In some cases, when they have the support of the Mozambican Bar Association (OAM), they may get convictions, even against the government or the elite. Successful examples are the convictions against the global mining company VALE Moçambique and the Mozambican state in the case of forceful removal of local farmers from their land in Tete²⁷, as well as the conviction of the ProSAVANA Office²⁸, for engaging in secretiveness and lack of transparency regarding the plans for acquisition and use of land rights (OAM 2018).

Other cases, even with the support of the OAM, are faced with difficulties in being heard. An example is the case of the land irregularly attributed in Afungi, Palma District, to the Rovuma Basin gas project. This resulted in an illegal right to use and benefit from the land (*direito de uso e aproveitamento da terra*: DUAT), ultimately issued to the gas company two years after the legal opinion of its illegality was pronounced (Trindade et al. 2015). The OAM appealed against the DUAT, but one year later, the Administrative Court refused to hear the case, alleging that the communities had accepted it and could be adversely affected (OAM 2019) by an interruption of the activities. This example raises questions as to the independence of the courts as does the fact that lots of land lies idle, especially along major roads and other infrastructure, where the DUATs are held by non-residents, who are not obliged to use the land or lose it as the law stipulates.

Finally, some areas in the agricultural sector are regularly inspected (Topsøe-Jensen et al. 2019: 72, list land use inspection instruments). The ministries responsible for the sector also have inspectors that deal with complaints from the public. In this way, officials who abuse their power may be penalized. A conflict management department was set up in land administration in 2015. In Forest and Wildlife administration, the law provides for a strategy for the participation of community inspectors, which was actually developed (Bila 2005). An inspection operation of national scope was implemented for monitoring timber harvesting ('operation trunk') and, occasionally, there has been news of combating poaching and trade in hunting trophies. The supervision of land use activities has resulted in the withdrawal of DUAT or rescaling of idle land. However, law enforcement powers are weak, partly due to the conflicts between legal regulations (Capaina 2019), the capture of the state by private interests and the insufficiency of human and financial resources.

Thus, although the legislative framework is formally in place, some subsectors are subject to capture. This is more frequent for forestry plantations (Bruna 2017), livestock and game farms, and timber harvesting, where intensive logging is carried out (Afonso 2019: 9). The same goes for areas of interest to the elite with easy access to capital, who obtain land rights for areas where they

²⁶ Article 4 of the Constitution of the Republic (2004).

²⁷ Through Decision No. 09/TAPT/19 of the Tete Administrative Court (O País 2019).

²⁸ ProSAVANA implemented projects co-coordinated by the former Ministry of Agriculture and Food Security of Mozambique (MASA), the Japan International Cooperation Agency (JICA) and the Brazilian Cooperation Agency (ABC).

only use a very small proportion and in conflict with the local population (JA and UNAC 2011: 58–59).

3.5 Lack of effective voice, participation and accountability (weak civil society)

Community and public participation in decision-making is recognised in the legislation in Mozambique (OSISA 2009: 74 and following) and this extends to the agricultural sector. Turning to the right of association, it is governed by Law No. 8/91, of 18 July. However, the process of revising this law, in order to simplify it, with participation by civil society organizations, is not making progress.

Apart from public hearing mechanisms, where people can participate individually, there are also other types of participation through organizations. There are civil society organizations and consultation fora from community to central level.²⁹ Some have a wide membership base.³⁰ Others include product-oriented companies and/or institutions.³¹ Some of these have local representation, taking part in consultations, work, and local assessment of policies (Topsøe-Jensen et al. 2015: 54 and following).

Some forms of participation are simply informational, opening up room for clarifications, others are for specific consultation on a topic or programmes, while others are for dialogue and working together, with operational results. Some operate independently, others are organized around topics or causes. Freedom of speech in the country favours the participation and accountability of the state and other formal organizations, as well as public assessment of their performance and the rules of the game that apply. However, public agricultural institutions have, in practice, shown little inclination to adopting accountability mechanisms open to their sector partners. For example, information on rights to use and benefit from the land is not available to the public.

On the positive side, community consultations in the application process for obtaining the DUAT might result in a record or document, such as a license or certificate, with legal value to the holder. Another example is the case of the Consultation Forum on Land or Forests. While any consensus is not binding, it is difficult to ignore, provided the consensus does not imply revision of the legislation. In addition, there are other consultation fora, which do not include representation of the state or the government, aimed at monitoring and advocacy, as is the case of the Budget Monitoring Forum (FMO), the Land Forum in Nampula and the Women's Forum. Some of these are formally constituted and are the object of a legal instrument.³²

Local organizations are also invited to take part in the formulation of policies, as well as the monitoring of their implementation. The favoured participation channels are the Community Councils, which can have specific names—for example, the Participatory Management Councils

²⁹ For example, Law No. 19/97, of 1 October (on Land), Law No. 34/2014, of 31 December (on the Right to Information, the draft Agriculture Act and the revision of Law No. 8/91, of 18 July (on Associations) had direct interaction from the parliament.

³⁰ The National Farmers' Union (UNAC), which came into being in 1987, is an example of a farmers' movement with provincial representation and support from the Farmers' Associations governed by Decree-Law No. 2/2006, of 3 May, on Farmers' Associations.

³¹ Such as the Mozambican Association of Sugar Producers (APAMO), the National Forum for Cotton Producers (FONPA), the National Forum for Pulse Vegetables, the Mozambican Poultry Producers Association (AMA) the Mozambican Poultry Industry Association (AMIA), etc.

³² For example, the Land Consultation Forum was set up by Decree No. 42/2010, of 20 October. The Tourism Forum was set up by Decree No. 25/2017, of 23 June.

(COGEP) for land resources, forests, and fauna. However, in the agricultural sector, this has not been a systematic practice common to all the public institutions. There are cases where there was effective participation by civil society organizations (CSO) but, in the majority of cases, either there was no involvement or there were only poorly prepared soundings to no effect. Additionally, occasions for cooperation are systematically postponed.³³

Overall, the complex network of organizations participating in the agricultural sector allows for attendance and participation at different levels and at different occasions for complaint, consultation, advocacy, supervision, etc. However, the examples presented in the previous section show that their voice is not always heard (Salomão et al. 2019a: 7) and they do not always fully represent the communities (Salomão et al. 2019b: 6). In spite of this, their participation is of intrinsic value in the transfer of information and knowledge of the general positions of the players involved. This value is also present in events at regional and national representation levels. It is from these consultations that alliances and agendas are structured and more effective actions are initiated.

In sum, consultations and participation, as well as the mechanisms established for this purpose, are present in the daily routines in the agricultural sector. However, the efficiency of such participation is not reliable, generating uncertainty among the farmers as to whether all the parties involved will stick to agreements arrived at. Put differently, the ‘social contract’ is still not binding.

4 Underlying factors

The unsatisfactory performance of the agriculture sector and the institutional weaknesses reviewed above are due to a complex set of underlying factors. The political, economic and social context within which Mozambique’s agriculture sector has evolved since independence is tumultuous. The country has experienced several radical regime shifts and no sustained periods of peace and policy predictability. Such a context makes long-term nation-building and sustained agricultural advance and transformation an exceedingly difficult challenge. Success is only feasible with coherent and determined leadership, promoting a sense of national unity, and giving priority to the agriculture sector and the many millions of farm households in accordance with the Constitution, independent of private and outside interests.

In contrast, Mozambique has experienced extensive periods of war and conflict, with a vast and demanding geography, and limited infrastructure. Lack of integration among the south, centre and north of the country is characteristic and policy directions have been fluid depending on interests of the elite and the role of donors, in a nation under construction. While these factors are not of exclusive importance to agriculture, they have had extensive impact on the sector, and agriculture has not received the priority stated in the Constitution. This reflects the factors alluded to above, including that the attention of the state has been absorbed by imminent challenges to its authority, under pressure and systematic questioning of its legitimacy in connection with electoral cycles (Correia da Silva 2014). Moreover, attention has been absorbed by having to manage numerous emergency programmes to deal with the consequences of war, natural disasters and hunger. To this comes, more recently, the extensive opportunities to invest in the exploration of mineral

³³ As an example, the last (9th) session of the Land Consultation Forum, which is supposed to be held twice a year, was held on 8 and 9 November 2017.

resources. We now turn to these different factors one by one, fully recognizing they are interdependent.

4.1 Political instability, violence and legitimacy of the state

Vast tracts of Mozambique have experienced a situation of political and military instability and violent conflict for 30-40 years. Peace was partially and temporarily restored for two decades, from 1992 to 2011, but political and military tensions returned to threaten peace and tranquillity. The impact on the agriculture sector has been devastating. Conflicts have caused people to abandon their areas of residence and production, generating pressure and situations of disputes over rights of use of resources and interrupting the provision of services to small farmers, delegated to medium-sized and large companies.

The war during the 1980s caused massive destruction of infrastructure and loss of human lives throughout the country. In addition, agricultural land was abandoned as millions of predominantly rural refugees sought shelter in neighbouring countries and urban areas. Furthermore, the war meant that resources were directed in very large measure to military purposes with long-term consequences. The war also undermined the Ministry of Agriculture preventing the creation of public services that are fundamental for a modern agriculture. Mozambique, in contrast to Zimbabwe, did not inherit rural extension services and the war broke down all marketing efforts.³⁴ Similarly, national capacity for agriculture research did not take off and the weak production of seed and inadequate use of fertilizer are just two examples which have roots back to the destabilization of the 1980s. A final example refers to local district administrators who, because of the war, became state representatives with a certain style of authoritarian governance in detriment to a process of focusing on the welfare of the people and seeing themselves serving for this purpose.³⁵ On top, the turnaround in economic principles from the late 1980s led to an almost exclusive focus on getting prices right, market-based approaches and the dismantling of state support for agriculture development in a country plagued by violent conflicts. Mozambique has not, so far, managed to escape from this heritage in any decisive manner, and population growth and its unbalanced territorial distribution has continued to generate conflict over scarce resources.

The armed conflicts in Mozambique and the intermittent violence in recent years (2012–19)³⁶ involved and affected, due to their nature and location, rural communities and crop and livestock farmers, and also affected the sectors to which they are linked (Brück 1998: 1047–48). The main areas affected have been the provinces in the centre and north of the country, which are also the ones with the largest farming population, working the largest cultivated area, including the ones with highest productivity, growing both food and cash crops. The main private commercial investments in land and natural resources are also in these regions, with impacts on the farming rights and conditions of the rural society. In addition, conflicts in the centre of the country have brought with them the risk of damaging cuts in terrestrial communications between north and south, and the coast and the hinterland.

Armed violence severed sales channels, worsened the already weak capacity for providing agricultural services and affected activities related to jobs outside of farming and consumption of farm produce, including tourism. In 2014, the National Farmers' Union (UNAC) estimated that

³⁴ Neighbouring Swaziland, with less than half a million people, had more rural extension workers than Mozambique.

³⁵ We acknowledge the former Minister of Finance, Magid Osman, for making this and other points in this paragraph.

³⁶ Some of the many documents giving the timeline and a description of the armed conflicts in Mozambique include those by Borges-Coelho (2010), Lucas (2016) and Correia da Silva (2014).

around 69,000 farming families had been affected by the war (UNAC 2014: 2). Political violence and the conflicts had an impact on people's movement and on women in particular (ASFC et al. 2019: 44–48), the main segment of the rural population, as well as on the environment.

It is also clear that the combination of widespread flooding and the Renamo insurgency in 2013 caused massive drops in food production as reflected in Table 1. Traditionally, rural households have turned to the sale of forest products, as well as wild food and medicinal products as a coping strategy when facing production shortfalls. However, the migration caused by the armed violence has disconnected the communities from their environment, limiting their access to these natural products.

Political, military, and social violence has in recent years had a deteriorating effect on the stability of the farming population and on food security (Jornal Notícias 2018; TVM – Redacção 2020). The attacks by groups assumed to have ethno-religious roots in the extreme northern coastal area in Mozambique began on 5 October 2017 (Maquenzi and Feijó 2019: 13), and are presently a major concern and security threat.

In sum, a) faced with the existence of diverse armed groups, the state has no effective monopoly on the use of force; b) local administrative structures have weakened; c) the rural population, mostly farmers, have continued to be seriously affected by war and armed conflict; d) the harshest hit regions are the ones with the highest agriculture and livestock production potential; and e) these areas in the centre and northern part of the country are also those that have been affected most by extreme climate events during the recent episodes of armed violence. Moreover, the agreements between Frelimo and Renamo during the last decades have not led to the same sense of people's safety and a return to peace as was the case after the 1992 Treaty of Rome³⁷, which led to recovery of the agricultural sector in the 1990s.

Nation-building and building the legitimacy of the state is a long-term continuous process and certainly involves recognising the role of the state in assuring the safety of people and property, the protection of social rights, the structuring and provision of other public services and the promotion of development. In Mozambique, the inability of the state to assure the provision of agricultural public services and promote the development of a broad base in the sector, combined with growing spatial and group-based inequalities, have contributed to the erosion of the legitimacy of the state, facilitating the outbreak of violence with an impact on agricultural production and marketing.

4.2 Regional divides and lack of market integration

Mozambique has been a transit country since colonial days. Infrastructure was built to provide transport services for neighbouring countries with limited focus on integrating the national territory. Accordingly, and as summarized by Tarp et al. (2004), while the connections between east and west in Mozambique are relatively good, infrastructure is generally poor. Moreover, domestic transport between the northern and central parts of the country – the areas with highest agriculture potential – and the urban south is very costly and severely constrains agriculture development.³⁸

³⁷ See http://www.ipris.org/files/6/07_Documento_Acordo_Geral.pdf (accessed 14 July 2020).

³⁸ Heltberg and Tarp (2002) bring out the key importance of non-price factors such as risk, technology and transport infrastructure for rural peasants' marketing decisions. They conclude that to achieve pro-poor rural growth it is essential to address explicitly the conditions of high-risk, low productivity and low capital endowments of poor

Since 1992, major programmes have been implemented with donor support to develop the transport network, which have resulted in improvements in the primary and secondary road system, especially in the southern regions. However, rather limited attention has in practice continued to be paid to developing north-south integration and a badly needed rural roads network, and this is so in spite of the extensive geographic diversity already alluded to above. According to the World Bank (2016), only 17 per cent of the rural population lives within 2km of the nearest road in good condition.

Consequently, transaction costs are very high indeed and markets for agricultural production are poorly integrated. This implies that improvements in agricultural technology alone are unlikely to be successful. Increasing production in local areas will be associated with falling prices if farmers do not have access to export markets and consumers in the south. This calls for coordinated investment in infrastructure and agriculture support services. This runs counter to the aspects discussed in section 3.2 and the limited capacity of the state.

Summing up, it is clear that the above characteristics have over the years deepened the historical and socio-economic divides between southern Mozambique, on the one hand, and the central and northern regions, on the other (see Egger et al. 2020; DEEF 2016).

4.3 Lack of interest of the elite

At independence the nation-building project of Frelimo was closely associated with attention to agrarian transformation and priorities were focused on the promotion of state farms and communal villages. The inherent investment strategy was capital-intensive and proved in the final analysis to be a failure. As Frelimo priorities started to shift towards small-scale peasant agriculture before the Fourth Congress in 1983, war was in the making, literally undermining attempts at agriculture advance. After peace in 1992, peasant agriculture seemed to rebound almost automatically due to recovery from a very low base and the interests of the elite were elsewhere.

The economic liberalization programme led to a privatisation process and a merger of private and political powers which became the focus of attention. Agriculture was, with prominent exceptions in forestry, wildlife and land, largely ignored. Generally, the sector did not offer really major opportunities for rent-seeking and capital accumulation though cases of corruption associated with, for example, the forestry sector have attracted attention in the popular press. Moreover, the elite did not depend on agriculture progress in the midst of major inflows of foreign aid and their reliance on food and other imports from South Africa.

Towards the end of the 1990s, interests started shifting further towards the opportunities inherent in the extractive sector rather than to agriculture, which, as described above, continued to be affected by natural calamities and emergency management instead of long-term priorities and needs. This, in combination with the poor use of the state budget in the agriculture sector, meant that the share of the budget remained very low until the present. This has been further influenced by the weakness of civil society organisations as advocacy organizations for public concerns, a role that goes beyond their function as pressure groups.

farmers. Arndt et al. (2012) use structural path analysis and compare the experiences of Mozambique and Vietnam—two countries with similar levels and compositions of economic growth but divergent poverty outcomes. They find that a given agricultural demand expansion in Mozambique will, *ceteris paribus*, achieve much less rural income growth than in Vietnam. Inadequate education, trade and transport systems are more severe structural constraints to poverty reduction in Mozambique than in Vietnam.

4.4 Donors (lack of agency in strategic and policy formulation)

The lack of economic and financial resources has greatly constrained autonomy in economic policy decision-making in Mozambique ever since independence. As stated by Mosca (2011: 452), agricultural policies and strategies were from the beginning imported and based on the assumption of external funding. To illustrate, in the agriculture sector this explains in large measure the adoption of capital-intensive technology and approaches to agrarian transformation in the immediate post-independence period, which proved unsuccessful. Another stark example of donor influence is the economic reform programme introduced after economic collapse in 1986. While the programme was evidently inappropriate in a context of war and destruction, its longer term consequences are hard to exaggerate. This is certainly so in relation to the dismantling of state presence in the sector and the need for public intervention to address evident market failures in areas such as input supply, marketing and access to credit.

In their review of aid and development in Mozambique from 1980 to 2004, Arndt et al. (2006: 79) highlight that:

‘... aid has not been without problems. The historical tendency of channelling external funding directly towards sectors, bypassing central review and management, has contributed to poorly coordinated policy interventions and fiscal imbalances. We also find that the staggering number of donor-supported endeavours continues to generate uneven and often unmanageable institutional pressures.’

Put differently, the existence of numerous donors with competing interests and priorities contributed in the 1990s to a pronounced lack of strategic direction depending on which donor was the most influential at a particular point in time. Accordingly, aid agencies reinforced the lack of priority given to agriculture in sectoral budget allocations. We have referred above to the relative neglect of agriculture by the government in budgetary allocations. It should not be overlooked that the same was happening in the allocation of aid for agriculture development.

As emphasis shifted in aid modalities around the turn of the millennium from project and programme support to macroeconomic and budget support, an effort was made to ensure greater coherence and effectiveness. However, it is quite obvious that Mozambique’s dependence on external finance has led to lack of agency and the practice of using donor funded consultancies as a conditionality has weakened national policy coordination and ownership to the point where mutual trust between government and the donor community started breaking down from late 2000s. The most recent example of this appeared in relation to the hidden debts scandal where donors froze all budget support to the newly appointed government in 2015 with drastic socio-economic implications. Fortunately, relations have recovered, but the interests of donor countries have started to change with the discovery of large gas deposits.

In sum, donors have played a very significant and volatile role in Mozambique since independence. External interventions have not always been unproductive, sometimes contributing to the transfer of knowledge and the stabilization of the conditions under which farmers make their decisions as economic and social agents. In addition, we find that the dependence on aid should not excuse the lack of ability to formulate and implement policies, whether on the part of the state or on the part of civil organizations.

5 Looking to the future

By way of conclusion, we have, in this paper explored the agriculture performance of Mozambique, its institutional weaknesses and the underlying factors that help explain the present unsatisfactory situation. We have pointed to the role of systemic political instability and violence combined with challenges to state legitimacy. Regional divides and lack of market integration continue to influence in a critical and all-encompassing manner. Finally, the way in which the interests of the elite and the influence of donors have affected progress in the agriculture sector suggest the need for concerted reorientation in existing strategies, policies and priorities. This is reinforced by a series of future challenges, discussed in 5.1. They include:

- (i) Extractive industry;
- (ii) Population growth and internal migration;
- (iii) National and international markets;
- (iv) Climate change;
- (v) COVID-19.

Finally, we provide, in section 5.2, a set of policy considerations for priority actions to help improve future prospects and performance in terms of production of agriculture products and agro-industry. Our reflections are based on three fundamental principles: (i) peace will be consolidated and effective all over the country; (ii) governance will make the elimination of poverty and the reduction of social inequalities a priority; and (iii) the agricultural sector will be considered to be key for reducing poverty, achieving social stability, consolidating peace and promoting socioeconomic, endogenous, inclusive and sustained development, and this will be reflected in future sectoral budget allocations once revenue from natural resource extraction becomes available. Furthermore, even if there are sweeping changes in the prevailing framework and priorities (especially with regard to economic and social public policies), it will be difficult for the economy as a whole to create enough employment at a pace that could absorb the increasing labour force. This suggests that agriculture development has to go hand in hand with structural transformation and employment generation more generally.

5.1 Challenges

The extractive industry

Huge investments are planned over the next 10 years in the gas extraction industry, in areas 1 and 4 of the Rovuma Basin in the North of Mozambique. The estimated total investment in the projects in these areas is US\$50.6 billion. According to the Ministry of the Economy and Finance (MEF), the accumulated revenue generated for the government by these projects in the first 25 years may vary between US\$31.3 billion, the worst-case scenario, and US\$71.5 billion, the best case scenario (MEF 2018). In either case, bearing in mind the other investments underway and planned for the extractive industry (gas in Inhambane, coal, heavy minerals, precious stones, etc.), there will be an increasing inflow of large amounts of foreign currency. This is associated with both risks and potentials, including an appreciation of the metical, which could have both positive and negative consequences for the Mozambican economy. For the agricultural sector, a stronger metical will, on the one hand, allow for reducing the cost of increasing production through intensification, given that the majority of production goods are imported. On the other hand, it

will make domestic agricultural products more expensive and less competitive on national and international markets.

The broad expectation of different Mozambican political and civil society segments is that the revenue from the extractive industry will be channelled towards promoting more inclusive and sustainable socioeconomic development, reducing dependence on the exploration of non-renewable resources, in line with the fundamental principles outlined above. The government has, at the highest level of authority, clearly manifested the intention and its readiness to adopt in practice policies that will make these expectations a reality and official discourse continues to consider the agricultural sector to be a priority in this diverse and sustained development perspective.³⁹ A study is underway on the constitution of a Sovereign Fund, which could be an essential instrument for the application of these policies and for avoiding undesirable fluctuations in the metical. These policies and instruments could be determining factors for the development of the agricultural sector in the long term. This is why it is fundamental that the public, private and non-governmental institutions participating in the agricultural sector have the capacity to influence the formulation of development strategies and adoption of these policies.

Population growth and migration

The National Statistics Institute predicts that in 2050,⁴⁰ Mozambique will have a total population of around 60 million (around 2 times more than the estimated total population in 2019). It is also clear that the current population distribution of around 2/3 rural and 1/3 urban will change significantly due to migration to urban centres. Mozambique will experience a greater trend towards migration to the urban centres by younger and more resourceful people, which will result in a reduction of young people with some education working in agriculture unless significant progress takes place for education in rural areas.

Under these conditions, the trend will be towards inability of agricultural productivity to catch up with the growing consumption needs nationwide, particularly in urban areas, and an increase in the production of commodities for export. This tendency highlights the need for concerted efforts to promote technological progress and adaptation. At the same time, agriculture will in the foreseeable future have to absorb a sizeable share of the large numbers of new entrants into the labour market if major unemployment is to be avoided.

National and international markets

When planning the future of the agricultural sector, there is a need for coming to grips with the changes and trends in the development of trade relations in these markets, increasingly determined by commodity exchanges and futures markets (Medeiros 2014). The demand for basic foodstuffs processed in the national market will increase, not only due to overall and urban population growth, but also due to the increase in family incomes if more inclusive public policies promoting economic diversification are adopted. Competition from imported food products is also likely to increase on the domestic market, whether due to the increase in domestic demand or due to the reduction in domestic prices of imported products resulting from the appreciation of the metical.

³⁹ According to the proposed Economic and Social Plan (PES) for 2020, submitted to parliament by the government (Council of Ministers 2020a), 10.2 per cent of the state budget for 2020, excluding General State Expenditure, is earmarked for the Agriculture and Rural Development sector. Nevertheless, according to Mosca (2020: 11–12), the allocation to all the institutions of the new Ministries of Agriculture and Rural Development (MITADER) and of the Land and the Environment (MTA) is just 6.3 per cent.

⁴⁰ See <http://www.ine.gov.mz/iv-rgph-2017/projecoos-da-populacao-2017-2050/mocambique.xls/view>.

This calls for effective exchange rate management and supply side economic policies to avoid Dutch disease. This will be critical and it is unlikely going to be possible to completely neutralise the Dutch disease. However, much can be done by increasing capacity in non-tradable sectors and making a huge effort to increase productivity.⁴¹

There has been a huge increase in international transactions in agri-food products in the last 50 years—the value of international product flow increased fivefold (FAO 2018: 34)—and will very probably continue to increase exponentially with the increase in the world population and the improvement of the quality of life in densely populated countries like China and India. International markets for agri-food and other commodities will very probably continue to be dominated by the present leaders in these markets.⁴² The tendency will be that the market leaders will continue to prefer sourcing primary and raw materials in a country like Mozambique due to the comparative advantage in agriculture discussed in section 1. However, developing agro-industry and building domestic value chains, pursuing increased processing of agricultural output must be incorporated in any long-term transformational development strategy. This is also in line with boosting the domestic supply side of the economy to avoid Dutch disease referred to above, and investing revenue from extractive industries to support such investment will be necessary.

Climate change

Mozambique has always been affected by periodic droughts (especially in the southern and central regions) and by floods (all over the country, with greater incidence in the central and northern regions), as it is in an area at high risk of adverse climatic events. These risks are increasing due to climate change. An example of this is the violence of the recent cyclones, Idai and Kenneth. Brito and Holman (2012: 38) estimate that climate change will negatively impact productivity between 2046 and 2065 and the impact will be more severe in some regions.

Therefore, it is fundamental for the country to define a specific, long-term strategy to develop a form of agriculture that is less vulnerable to climate change.⁴³ This strategy should consider the costs and benefits for small farmers of incorporating concrete measures for the development and dissemination of agricultural technologies that are environmentally friendly and resilient to climate change, as well as appropriate infrastructures for mitigating the risks brought about by the negative impacts of climate change.

COVID-19

This study was completed after the emergence of COVID-19, which rapidly became a pandemic affecting public health and the economy all over the world, with a greater incidence in the countries that dominate the world market. The strategy adopted by these countries included total lockdowns in the circulation of people, public services, and economic activity, which is causing an accentuated contraction in their economies and turbulence in the financial markets, with negative socioeconomic impacts worldwide.

⁴¹ See Cruz et al. (2020) for an illuminating review of the construction sector in Mozambique and its challenges.

⁴² According to FAO data for 2018, the biggest importers and exporters of agri-food products are: (1) Importers: China, USA, Germany, Netherlands, Japan, France, Italy, Belgium, Canada, Spain, India and Mexico; (2) Exporters: USA, Netherlands, Brazil, Germany, France, Spain, Canada, Italy, Australia and Indonesia. In other words, eight of these countries are both the largest importers and exporters of agri-food.

⁴³ See Arndt et al. (2011) and Arndt et al. (2019).

There is a great deal of uncertainty as to what will happen in the coming months in Mozambique. However, irrespective of how the pandemic plays out, given Mozambique's high dependence on foreign investment and the export of commodities, whose prices are trending downwards, Mozambique will experience an economic downturn, at least in the short term. This will reinforce budgetary constraints in a situation where there are urgent needs to increase allocations to the health sector (to deal with the effects of the pandemic) and the defence sector (due to the intensification and expansion of the armed conflicts in the central provinces and in Cabo Delgado). This obviously complicates the task of ensuring greater priority for agriculture development in state budget allocations.

5.2 Policy considerations

Vision, commitment, and dialogue

Increasing agricultural productivity (essential for increasing market competitiveness) and reducing risk and vulnerability in the sector require the formulation of a broad structural reform agenda, not only in agriculture and agro-industry, but also in the secondary and tertiary sectors relevant to rural development. These transformations require integrated policies with a long-term outlook (at least 10 years), as well as the ability and time to implement them effectively and efficiently. Sustained and inclusive development of agriculture is a long-term process, needing vision and stable public policies to promote compatibility and links between the various sectoral policies pursued by committed public institutions.

Finally, to ensure that policies are inclusive, adequate and effective, non-governmental and private social and economic organizations must play a structured role both in their design and in the monitoring of their implementation. To this end, these organizations need specific training to improve the quality of their intervention in the policies through dialogue and advocacy. This would help offer an avenue for the development of an alliance between the state, the producers, especially the small farmers, their organizations, and other institutions to improve the performance in the sector.

Focus on the small family farmers and the creation of jobs in agriculture and agro-industry

We have argued throughout this study that focus must be on promoting small-scale farming to contribute to inclusive development. Agriculture is, and will remain in the foreseeable future, the basis for the livelihood and well-being of the majority of rural families and over 95 per cent of agricultural production is small scale. Accordingly, small farmers in the family sector must be a target group for policies that are both conducive to productivity and environmentally friendly, recognising that trade-offs between equity and productivity may occur. Accordingly, policies should also consider promoting the transformation of family farms into commercial units. For this to happen, policies must, for example, further the integration of small farmers into value chains with high market potential and into goods and services markets, promoting their capacity to negotiate this integration under conditions that bring benefits to their income and living conditions. Clearly, these recommendations do not imply that medium and large-scale commercial farms should be ignored. What is called for is a strategy that promotes a balanced approach where small farmers and their needs are taken into account, along the lines discussed in Berchin et al. (2019) for Brazil.

Furthermore, agro-industry which adds value to agricultural commodities by processing them before marketing, can, as proposed by Benfica, Tschirley and Sambo (2002), play a key role in agricultural development in Mozambique in sectors like maize, cotton, cashew and sugar. Mozambique's comparative advantage in agriculture and some agro-industries must play a key role

in any balanced development strategy focused on integrating networks of unorganized smallholder farmers with domestic and international markets along the supply chain. In this regard, the increase in productivity and productive efficiency through improved technology that is not harmful to the environment must be a main, specific aim of any future agricultural policy, to ensure the competitiveness of Mozambican producers.

These recommendations are in line with the analysis of the Mozambican labour market by Jones and Tarp (2012). They point to three jobs priorities. The first is to address existing low levels of agricultural productivity. Sustained poverty reduction requires transforming agricultural jobs. Secondly, the non-farm informal sector should be supported as they are a source of dynamism and entrepreneurship. Good jobs are not just formal sector jobs as noted by Jones and Tarp (2012). At present there is a tendency to perceive these firms in a negative light. Thirdly, government should, as already argued above, support labour intensive agro-industry with export potential.

Decentralization and improvement of public and private services

Decentralization and the improvement of the quality of agricultural services are necessary conditions to promote productive and environmentally friendly agriculture and agro-industry production. Decentralization brings the services closer to the farmers, helping them increase their ability to respond to demand. However, for decentralization to result in an increase in the quality of services, they must be provided with greater human, material and financial capacity. Priority should be given to key services for technological development and productivity (agricultural research and extension, control of pests and diseases, seed production and certification, soil laboratories, etc.). The same goes for good management and preservation of natural resources (land, water, flora, fauna), which requires capacity for planning and monitoring the use of these resources and local resolution of conflicts about access to them and between social and economic players. Decentralization of these key agricultural public services must take into account the fact that each one of them is an integrated national system which includes their own internal organization, their qualifications and technical and professional careers, their regulations and legal mandate for applying them, and their strategies/plans for increasing their scope and quality. These systems need to be improved and adapted to improve the response quality of the service providers to the needs on the demand side. They should avoid the tendency towards ad hoc, improvised restructuring, characteristic over the last two decades, with clear consequences for quality, effectiveness and efficiency.

In parallel with the development of public services, there is a need to stimulate diversification, expansion and an improvement in the quality of private services essential to production and productivity (supply of production goods, mechanization, agricultural marketing, savings and credit, transport, communications, etc.). As Mozambican agriculture consists mainly of non-intensive family farms aimed at subsistence, there is still little actual market demand for these services. Therefore, it will be necessary to adopt policies and instruments which, on the one hand, stimulate small farmer demand for supplies and services and, on the other, promote the expansion of geographic coverage (to facilitate access by the farmers) and the quality of the supply.

In sum, future reforms must be conducive to productivity enhancement and must incorporate the development of productive infrastructures (to develop irrigated agriculture,⁴⁴ reduce post-harvest losses, and process and distribute products), as well as the expansion and improvement of the rural

⁴⁴ According to the National Irrigation Programme 2017-2042 (INIR 2017: 7), 181,000 hectares of land have irrigation infrastructures, of which only 90,000 hectares are operational, and there is an estimated total area of 3 million hectares that is potentially irrigable.

road, electricity, and communications networks. This in line with the jobs analysis by Jones and Tarp (2012), who conclude that spatial industrial policy and leveraging of natural resource revenues to substantially improve infrastructure and logistics services along key value chains offer great potential in addressing the present job challenges.

Finally, one more question for reflection: will it be possible to promote the development of Mozambican agriculture in the next 10–20 years in an essentially free market economic policy framework, or will specific economic policies and market interventions be needed to stimulate this development? We believe that to propel agricultural transformation and development that is socially inclusive and sustained, Mozambique will need to adopt suitable credit policies to stimulate investment in the intensification of agricultural production, subsidies aimed at promoting an increase in productivity, price and market policies that reduce the risk of negative impacts in the production sector caused by fluctuations and market downturns, and customs regulations that do not expose national farmers to very unequal competition from agricultural products whose export is promoted by their countries of origin through a variety of incentives and subsidies.

References

- Abbas, M. (2017). ‘Segurança alimentar. Auto-suficiência alimentar: mito ou realidade?’. *Observador Rural*, (55). Maputo: Observatório do Meio Rural (OMR).
- Adelman, I. (1984). ‘Beyond Export-Led Growth’. *World Development*, 12(9): 937-949. [https://doi.org/10.1016/0305-750X\(84\)90050-0](https://doi.org/10.1016/0305-750X(84)90050-0)
- Afonso, C. (2019). *Dinâmicas do sector florestal em Moçambique. Slides*, Direcção Nacional de Florestas (DINAF), presented at the Dialogue on Agrarian Development and Climate Change in Mozambique, Universidade Eduardo Mondlane (UEM), 23, 24 and 26 September 2019, Maputo.
- Alfazema, A. (2015). *Os Desafios dos Tribunais Comunitários na Administração de Justiça em Moçambique*. Available at Academia.edu, https://www.academia.edu/10809756/Os_Desafios_dos_Tribunais_Comunitários_na_Administração_de_Justiça_em_Moçambique (accessed 25 October 2019).
- Amaral, C., Mouzinho, B., Villisa, D., Matchaya, G., Nhlengethwa, S., Wilson, D. and Nhemachena, C. (2020). ‘Analysis of maize production and yield in Mozambique (2000-2018): trends, challenges and opportunities for improvement.’, unpublished. Available at <https://www.agricultura.gov.mz/wp-content/uploads/2020/02/Analysis-of-maize-production-and-yield-in-Mozambique-2000-2018.pdf> (accessed 18 December 2020).
- Arndt, C., Chinowsky, P., Fant, C., Paltsev, S., Schlosser, C. A., Strzepek, K, Tarp, F. and Thurlow, J. (2019). ‘Climate Change and Developing Country Growth: The Cases of Malawi, Mozambique, and Zambia’. *Climatic Change*, 154(3-4): 335–49. <https://doi.org/10.1007/s10584-019-02428-3>
- Arndt, C., Garcia, A.F., Tarp, F. and Thurlow, J. (2012). ‘Poverty Reduction and Economic Structure: Comparative Path Analysis for Mozambique and Vietnam’. *Review of Income and Wealth*, 58(4): 742-63. <https://doi.org/10.1111/j.1475-4991.2011.00474.x>
- Arndt, C., Hussain, M. A., Jones, E. S., Nhate, V., Tarp, F. And Thurlow, J. (2012). ‘Explaining the Evolution of Poverty: The Case of Mozambique’. *American Journal of Agricultural Economics*, 94(4): 854–72. <https://doi.org/10.1093/ajae/aas022>
- Arndt, C., Jones, S. and Tarp, F. (2006) Aid and Development: The Mozambican Case DISCUSSION PAPERS 06-13. Available at <https://www.economics.ku.dk/research/publications/wp/2006/0613.pdf/> (accessed 18 December 2020).

- Arndt, C., Strzepeck, K., Tarp, F., Thurlow, J., Fant, C., and Wright, L. (2011). 'Adapting to Climate Change: An Integrated Biophysical and Economic Assessment for Mozambique'. *Sustainability Science*, 6(1): 7–20. <https://doi.org/10.1007/s11625-010-0118-9>
- ASFC, MULEIDE and CEEI/ISRI. (2019). *Impacto dos conflitos armados na vida das mulheres e raparigas em Moçambique: Relatório das pesquisas de campo nas Províncias de Zambézia, Nampula, Sofala e Gaza*. Maputo: Advogados Sem Fronteiras Canadá (ASFC). Available at https://www.asfcandada.ca/site/assets/files/7636/icavmm_13022019_web.pdf (accessed 27 October 2019).
- AU/NEPAD (2017). *Document for preparing country Biennial Review report on progress made for achieving the Malabo Declaration Goals and Targets: Technical Guidelines*. Addis Ababa: AU/NEPAD. Available at https://au.int/sites/default/files/documents/32377-doc-technical_guidelines_for_reporting_on_malabo_rev2_eng.pdf (accessed 25 October 2019).
- Benfica, R., Tschirley, D. and Sambo, L. (2002). 'Agro-industry and Smallholder Agriculture: Institutional Arrangements and Rural Poverty Reduction in Mozambique', *flash...*, 33E: 1-8.
- Berchin, I. I., Nunes, N. A., Silva de Amorim, W., Zimmer, G. A. A., Rodrigues da Silva, F., Fornasari, V. H., Sima, M., Salgueirinho, J. B., and Guerra, O. A. (2019). 'The contributions of public policies for strengthening family farming and increasing food security: The case of Brazil', *Land Use Policy*, 82: 573-584. <https://doi.org/10.1016/j.landusepol.2018.12.043>
- Bila, A. (2005). *Estratégia para a Fiscalização Participativa de Florestas e Fauna Bravia em Moçambique*. Maputo: Direcção Nacional de Florestas e Fauna Bravia (DNFFB)/FAO. Available at <http://www.fao.org/forestry/12931-0dbfeb0710acca6ecabe61e7ae746d135.pdf> (accessed 26 October 2019).
- Borges-Coelho, J. P. (2010). *A 'Literatura Qualitativa' e a interpretação do Conflito armado em Moçambique (1075-1992)*. Coimbra: Centro de Estudos Sociais da Universidade de Coimbra. Available at [https://www.ces.uc.pt/ces/estilhos_do_imperio/comprometidos/media/Moçambique%20e%20a%20LQ%20pdf%20\(2\).pdf](https://www.ces.uc.pt/ces/estilhos_do_imperio/comprometidos/media/Moçambique%20e%20a%20LQ%20pdf%20(2).pdf) (accessed 25 October 2019).
- Brito, R. and Holman, E. (2012). 'Respondendo as mudanças climáticas em Moçambique. Tema 6: Agricultura'. In INCG, *Respondendo às mudanças climáticas em Moçambique. Fase II*. Maputo: INGC.
- Brück, T. (1998). 'Guerra e Desenvolvimento em Moçambique'. *Análise Social*, XXXIII (5.º) (149): 1019–1051. Available at <http://analisesocial.ics.ul.pt/documentos/1221844645N4pCJ4py0Bk40IF4.pdf> (accessed 26 October 2019).
- Bruna, N. (2017). 'Plantações Florestais e a Instrumentalização do Estado em Moçambique'. *Observador Rural*, (53), Maputo: Observatório do Meio Rural (OMR).
- Capaina, N. (2019). 'Titulação e Subaproveitamento da Terra em Moçambique: Algumas Causas e Implicações'. *Observador Rural*, (73). Maputo: Observatório do Meio Rural (OMR).
- Carrilho, J., Abbas, M., Júnior, A., Chidassicua, J. and Mosca, J. (2016). *Desafios para a Segurança Alimentar e Nutrição em Moçambique*. Maputo: Observatório do Meio Rural (OMR).
- Carrilho, J.Z. and Ribeiro, R.N. (2020). 'Influence of institutional factors on the performance of the agricultural sector in Mozambique'. WIDER Working Paper 2020/128. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2020/885-6>
- Castigo, F., and Salvucci, V. (2017). 'Estimativas e Perfil da Pobreza em Moçambique, Uma Análise Baseada no Inquérito sobre Orçamento Familiar - IOF 2014/15'. Inclusive Growth in Mozambique Working Paper.
- Chiziane, E. (2015). 'Legislação sobre os recursos naturais em Moçambique: convergências e conflitos na relação com a terra'. *Observador Rural*, (28). Maputo: Observatório do Meio Rural (OMR).
- Council of Ministers (2020). *Proposta do Plano Económico e Social para 2020*. Maputo: Assembleia da República.
- Correia da Silva, G. (2014). 'Doze momentos-chave do conflito entre a RENAMO e o Governo de Moçambique' [Online]. *DW Made for Minds*, 5 August 2014. Available at <https://www.dw.com/pt->

002/doze-momentos-chave-do-conflito-entre-a-renamo-e-o-governo-de-moçambique/a-17822725 (accessed 26 October 2019).

- Cruz, A. S., F. Fernances, F. J. Mafambissa and F. Pereira (2020). 'The Construction Sector in Mozambique'. Chapter 9 in J. Page and F. Tarp (eds), *Mining for Change: Natural Resources and Industry in Africa*. Oxford: Oxford University Press. <https://doi.org/10.1093/oso/9780198851172.003.0009>
- DEEF (2016). *Poverty and Well-Being in Mozambique: Fourth National Poverty Assessment*. In Portuguese. Executive Summary in English. Maputo: Directorate of Economic and Financial Studies, Ministry of Economics and Finance. Available at https://www.wider.unu.edu/sites/default/files/Final_QUARTA%20AVALIA%C3%87AO%20NACIONAL%20DA%20POBREZA_2016-10-26_2.pdf (accessed 18 December 2020)
- DINAT (2018). *Balanço dos registos activos no SIGIT*. [Map]. Documento de Trabalho. Maputo: Direcção Nacional de Terras (DINAT).
- Egger, E.-M., Salvucci, V. and Tarp, F. (2020). 'Evolution of multidimensional poverty in crisis-ridden Mozambique'. WIDER Working Paper 2020/69. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2020/826-9>
- FAO (2018). *World Food and Agriculture Statistical Pocketbook 2018*. Rome: FAO. Available at <http://www.fao.org/3/CA1796EN/ca1796en.pdf> (accessed 26 January 2020).
- GdM and NEPAD (2017). *Trend Report of the Malabo Declaration Biennial Evaluation*. [Online]. Trend Report. Maputo: GdM and NEPAD. Available at <http://www.masa.gov.mz/wp-content/uploads/2018/05/MalaboTrend-Report.pdf> (accessed 21 September 2019).
- Granheim, S. I. (2013). *Análise de Políticas Nacionais: Impacto dos sistemas agrícolas e alimentares na Nutrição – Moçambique*. Estudo de Caso, Agosto de 2013. Maputo: UNS-SCN.
- Hansine, R., and Arnaldo, C. (2019). 'Natureza Demográfica e Consequências do Crescimento Urbano em Moçambique'. In S. Chichava (org.), *Desafios para Moçambique 2019*, pp. 297–318. Maputo: IESE.
- Heltberg, R. and Tarp, F. (2002). 'Agricultural Supply Response and Poverty in Mozambique'. *Food Policy*, 27(2): 103-24. [https://doi.org/10.1016/S0306-9192\(02\)00006-4](https://doi.org/10.1016/S0306-9192(02)00006-4)
- INE (2017). *Anuário Estatístico 2016*. Maputo: Instituto Nacional de Estatística (INE), República de Moçambique. Available at <http://www.ine.gov.mz/estatisticas/publicacoes/anuario/nacionais/anuario-estatistico-2016> (accessed 27 October 2019).
- INE (2019). *IV Recenseamento Geral da População e Habitação 2017: Resultados Definitivos - Moçambique*. Maputo: Instituto Nacional de Estatística (INE), República de Moçambique. See [Censo 2017 Brochura dos Resultados Definitivos do IV RGPH - Nacional.pdf](#) (accessed 20 December 2020).
- INIR (2017). *Programa Nacional de Irrigação*. Maputo: INIR-MASA.
- JA and UNAC (2011). *Os senhores da terra*. Maputo: Justiça Ambiental; UNAC.
- Jensen, H.T. and Tarp, F. (2004). 'On the Choice of Appropriate Development Strategy: Insights Gained from CGE Modelling of the Mozambican Economy', *Journal of African Economies*, 13(3): 446–78. <https://doi.org/10.1093/jae/ejh026>
- Jones, S. and Tarp, F. (2012). *Jobs and Welfare in Mozambique: Country case study for the 2013 World Development Report*. Washington, DC: World Bank. Available at <https://openknowledge.worldbank.org/handle/10986/12136> (accessed 18 December 2020)
- Jornal Notícias (2018). 'Falta de alimentos agrava-se em zonas atacadas na província de Cabo Delgado'. *Notícias online*, 1 October 2018. Available at <https://www.jornalnoticias.co.mz/index.php/sociedade/82237-falta-de-alimentos-agrava-se-em-zonas-atacadas-na-provincia-de-cabo-delgado> (accessed 19 de Abril de 2020).
- Lucas, L. (2016). 'Análise da Guerra em Moçambique'. *ISRIANOS* (blog), 3 December 2016. Available at <http://isrianos.blogspot.com/2016/12/analise-da-guerra-em-mocambique.html> (accessed 26 October 2019).

- Mandamule, U. (2019). ‘Gestão e Administração de Terras em Contexto de Riscos Climáticos: Desafios e Cenários Futuros’. *Destaque Rural*, (67): 5. Available at <https://omrmz.org/omrweb/wp-content/uploads/DR-67-Questo%CC%83es-de-terra-vs-IDAI.pdf> (accessed 10 July 2019).
- Mandamule, U. A. (2016). ‘Tipologia dos Conflitos sobre Ocupação da Terra em Moçambique’. *Observador Rural*, (37). Maputo: Observatório do Meio Rural (OMR).
- Maquenzi, J. and Feijó, J. (2019). ‘Pobreza, desigualdades e conflitos no norte de Cabo Delgado’. *Observador Rural*, (76). Maputo: Observatório do Meio Rural (OMR).
- MASA (2012). *Anuário de Estatística Agrárias 2002-2011*. Maputo: Ministério da Agricultura e Segurança Alimentar (MASA), República de Moçambique.
- MASA (2015). *Agricultural Statistics Yearbook 2012-2014*. Maputo: Ministério da Agricultura e Segurança Alimentar (MASA), República de Moçambique.
- MASA (2016). *Agricultural Statistics Yearbook 2015*. Maputo: Ministério da Agricultura e Segurança Alimentar (MASA), República de Moçambique.
- MASA (2017). *Relatório Bienal das Metas da Declaração de Malabo*. [Slides. Online]. Maputo: Ministério da Agricultura e Segurança Alimentar (MASA). Available at <http://www.agricultura.gov.mz/institucional/ministerio/arquivo/apresentacoes/> (accessed 14 July 2020—see note 6).
- MASA (2018). *Plano Nacional de Investimentos para o Sector Agrário - PNISA (2018-2019)*. Ministério da Agricultura e Segurança Alimentar - MASA. República de Moçambique, Maputo. Available at <http://www.agricultura.gov.mz/institucional/ministerio/arquivo/politicas-e-estrategias/> (accessed 14 July 2020—cf. note 6).
- Medeiros, M. C. (2014). ‘A Geografia do Mercado Mundial de Produtos Agroalimentares e o Papel do Brasil’. *Raega - O Espaço Geográfico em Análise*, 31: 260–279. <https://doi.org/10.5380/raega.v31i0.32943>
- MEF (2018). *Projected Government revenues from gas projects*. Junho de 2018. Maputo: Ministério da Economia e Finanças.
- MIC (2013). *Plano integrado da comercialização agrícola para 2013-2020*. Maputo: Ministério de Indústria e Comércio (MIC), República de Moçambique.
- MICOA (2007). *Programa de Acção Nacional para a Adaptação às Mudanças Climáticas (NAPA)*. Maputo: Ministério para Coordenação da Acção Ambiental (MICOA), Direcção Nacional de Gestão Ambiental. Available at https://www.preventionweb.net/files/16411_planonacionalparaadaptaoasmudanascl.pdf (accessed 19 February 2020).
- MINAG (2011). *Plano Estratégico de Desenvolvimento do Sector Agrário (PEDSA) 2011-2020*. Maputo: Ministério da Agricultura (MINAG), República de Moçambique. Available at <http://www.agricultura.gov.mz/institucional/ministerio/arquivo/politicas-e-estrategias/> (accessed 14 July 2020—cf. note 6).
- MINAG (2013). *Plano Nacional de Investimentos para o Sector Agrário PNISA 2013 - 2017*. Maputo: Ministério da Agricultura (MNAG), República de Moçambique. Available at <http://www.agricultura.gov.mz/institucional/ministerio/arquivo/politicas-e-estrategias/> (accessed 14 July 2020—cf. note 6).
- Minot, N. (2007). ‘Chapter 3. Contract Farming in Developing Countries: Patterns, Impact, and Policy Implications.’ In P. Pinstrip-Andersen and F. Cheng (eds.), *Case Studies in Food Policy for Developing Countries*. Ithaca: Cornell University Press.
- Mosca, J. (2011). *Políticas agrárias de (em) Moçambique (1975-2009)*. Maputo: Editora Escolar.
- Mosca, J. (2020). ‘Orçamento de Estado para 2020: Uma Caixa de Pandora’. *Destaque Rural*, (87): 12. Available at <https://omrmz.org/omrweb/publicacoes/dr-87/> (accessed 9 May 2020).
- Mosca, J. and Bruna, N. (2016). ‘Metodologia de estudo dos impactos dos megaprojectos’. *Observador Rural*, (41). Maputo: Observatório do Meio Rural (OMR).

- Mosca, J. and Nova, Y. (2019). 'Agricultura: Assim, não é possível reduzir a pobreza em Moçambique'. *Observador Rural*, (80). Maputo: Observatório do Meio Rural (OMR). Available at <https://omrmz.org/omrweb/publicacoes/or-80/> (accessed 9 May 2020).
- Mucavel, C. (2018). Sobre Agricultura e Segurança Alimentar. Slides of the Ministry of Agriculture and Food Security (MASA), presented at Universidade Eduardo Mondlane (UEM), at the Symposium on Agriculture, X Scientific Conference of UEM, 28 September 2018. Maputo: MASA.
- Nhate, V., Massingarela, C. and Salvucci, V. (2014). 'The Political Economy of Food Price Policy in Mozambique'. In P. Pinstrip-Andersen (ed.), *Food Price Policy in an Era of Market Instability: A Political Economy Analysis*. Oxford: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198718574.003.0010>
- Nova, Y., Dadá, Y. A. and Mussá, C. (2019). 'Agricultura em Números: Análise do Orçamento do Estado, Investimento, Crédito e Balança Comercial'. *Observador Rural*, (74). Maputo: Observatório do Meio Rural (OMR).
- O País (2019). 'Mineradora Vale e Estado moçambicano condenados'. *O País*, 17 October 2019. Available at <http://opais.sapo.mz/mineradora-vale-e-estado-mocambicano-condenados#> (accessed 27 October 2019).
- OAM (2018). *Comunicado de Imprensa: Condenação do Gabinete de Coordenação do Prosavana, do Ministério da Agricultura e Segurança Alimentar (MASA)*. 28 September 2018. Available at <https://www.oam.org.mz/comunicado-de-imprensa-condenacao-do-gabinete-de-coordenacao-do-prosavana-do-ministerio-da-agricultura-e-seguranca-alimentarmasa/> (accessed 26 October 2019).
- OAM (2019). *Comunicado de Imprensa: Primeira Secção do Tribunal Administrativo nega julgar o mérito da causa sobre a declaração de nulidade do DUAT atribuído à exploração exclusiva, pela ANADARKO, no contexto do projecto de Gás em Palma*. 16 September 2019. Available at <https://www.oam.org.mz/comunicado-de-imprensa-primeira-seccao-do-tribunal-administrativo-nega-julgar-o-merito-da-causa-sobre-a-declaracao-de-nulidade-do-duat-atribuido-a-exploracao-exclusiva-pela-anadarko-no-contexto-do/> (accessed 26 October 2019).
- OSISA (2009). *Moçambique: Democracia e Participação Política*. Johannesburg: AfriMAP. Open Society Initiative of Southern Africa - OSISA. Available at https://agora-parl.org/sites/default/files/pt-mocambique_-_democracia_e_participacao_politica-open_society_initiative_for_southern_africa.pdf (accessed 26 October 2019).
- Page, J. and F. Tarp (eds.) (2020). *Mining for Change: Natural Resources and Industry in Africa*. Oxford: Oxford University Press. <https://doi.org/10.1093/oso/9780198851172.001.0001>
- Salazar-Espinoza, C., Jones, S. and Tarp, F. (2015). 'Weather shocks and cropland decisions in rural Mozambique', *Food Policy*, 53: 9-21. <https://doi.org/10.1016/j.foodpol.2015.03.003>
- Salomão, A., Mário, T. V. and Tanner, C. (2019a). *Consultas Comunitárias. Nota Técnica*, April 2019. Maputo: SPEED+; USAID.
- Salomão, A., Mário, T. V., and Tanner, C. (2019b). *Representação Comunitária na Gestão de Terras e Recursos Naturais. Nota Técnica*, April 2019. Maputo: SPEED+; USAID.
- Stifel, D., and Woldehanna, T. (2016). 'Poverty in Ethiopia, 2000–11: Welfare Improvements in a Changing Economic Landscape.' In C. Arndt, A. McKay and F. Tarp (eds.), *Growth and Poverty in Sub-Saharan Africa*. 43–68. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198744795.003.0003>
- Sørensen, B.B., Estmann, C., Sarmiento, E.F. and Rand, J. (2020) 'Economic complexity and structural transformation: the case of Mozambique'. WIDER Working Paper 2020/141. <https://doi.org/10.35188/UNU-WIDER/2020/898-6>
- Tanner, C. (2010). 'Land rights and enclosures: Implementing the Mozambican land law in practice.' In W. Anseuw and C. Alden (eds.), *The struggle over land in Africa: conflict, politics and change*. 105–130. Cape Town: HSRC Press. Available at <https://www.researchgate.net/>

- publication/262010411_Land_rights_and_enclosures_Implementing_the_Mozambican_land_law_in_practice (accessed 25 October 2019).
- Tarp, F., Arndt, C., Jensen, H.T., Robinson, S. and Heltberg, R. (2004) *Facing the Development Challenge in Mozambique: An Economywide Perspective*. Washington, DC: International Food Policy Research Institute. Available at <http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/87288/filename/87289.pdf> (accessed 18 December 2020)
- Teka, K., Van Rompaey, A. And Poesen, J. (2013). ‘Assessing the role of policies on land use change and agriculture development since 1960s in northern Ethiopia’. *Land Use Policy*, 30: 944-951. <http://dx.doi.org/10.1016/j.landusepol.2012.07.005>
- Topsøe-Jensen, B., Ainadine, E., Calane, A. S. and Macia, C. J. (2019). *Final evaluation of GESTERRA capacity building programme on Land Management and Administration within DINAT*. First Draft. Maputo: NIRAS Sweden AB.
- Topsøe-Jensen, B., Pisco, A., Salimo, P. and Lameiras, J. (2015). Estudo de Mapeamento das Organizações da Sociedade Civil em Moçambique. Maputo: Altair Asesores and Agriconsulting SL. Comissão Europeia. Available at http://www.eeas.europa.eu/archives/delegations/mozambique/documents/news/mappingsco/20151020_estudomapeamento_onlineversion3.pdf (accessed 25 October 2019).
- Trindade, J. C., Cruz, L. and José, A. C. (2015). *Avaliação Jurídica Independente aos Processos de Licenciamento dos Projectos Minerários e de Hidrocarbonetos*. Parecer Jurídico. Maputo: Centro Terra Viva – CTV.
- TVM – Redacção (2020). ‘162 mil pessoas afectadas por insegurança alimentar devido aos ataques de malfeitores’ [Online]. *TVM*, 20 de Abril de 2020. Available at https://www.tv.mz/index.php?option=com_k2&view=item&id=6743:162-mil-pessoas-afectadas-por-inseguranca-alimentar-devido-aos-ataques-de-malfeitores&Itemid=277 (accessed 9 May 2020).
- UNAC (2014). *Comunicado de Imprensa: Os Impactos da Situação Política e Militar no Desenvolvimento da Agricultura em Moçambique*. 13 February 2014. Available at [http://www.universidadepopular.org/site/media/Campanha_dos_movimentos_sociais/Comunicado_de_Imprensa_UNAC012014_\(1\).pdf](http://www.universidadepopular.org/site/media/Campanha_dos_movimentos_sociais/Comunicado_de_Imprensa_UNAC012014_(1).pdf) (accessed 26 October 2019).
- World Bank (2016). *Accelerating Poverty Reduction in Mozambique: Challenges and Opportunities*. Washington, DC: World Bank. Available at <https://openknowledge.worldbank.org/handle/10986/25757> (accessed 18 December 2020)
- World Bank (2019). *Republic of Mozambique - Agriculture Public Expenditure Review: Assessment and Result-Focused Expenditure Management*. Washington, DC: World Bank. <https://doi.org/10.1596/32534>

Table

Table 1: Food production, 2010–17

		2010	2011	2012	2013	2014	2015	2016	2017
	Population (million)	22.4	23.1	23.8	24.6	25.4	26.2	27.0	27.9
Cereal	Maize (000s T)	2,090	2,179	2,355	1,174	1,357	1,262	1,487	1,704
	Rice (000s T)	258	271	203	114	156	128	108	110
	Sorghum (000s T)	389	410	139	132	155	82	90	100
	Millet (000s T)	49	52	44	20	29	11	12	16
	Maize (000s ha)	1,738	1,813	1,572	1,723	1,704	1,571	1,628	1,830
	Rice (000s ha)	227	239	363	404	377	235	182	143
	Sorghum (000s ha)	638	639	307	370	295	197	200	210
	Millet (000s ha)	109	114	55	70	51	30	27	35
	Maize (T/ha)	1.20	1.20	1.50	0.68	0.80	0.80	0.91	0.93
	Rice (T/ha)	1.14	1.14	0.56	0.28	0.41	0.55	0.59	0.77
	Sorghum (T/ha)	0.61	0.64	0.45	0.36	0.53	0.42	0.45	0.48
	Millet (T/ha)	0.45	0.45	0.80	0.28	0.58	0.37	0.44	0.45
		<i>Total (000s T)</i>	<i>2,785</i>	<i>2,912</i>	<i>2,741</i>	<i>1,440</i>	<i>1,697</i>	<i>1,484</i>	<i>1,697</i>
Cereal	Kg/cap.	124.4	126.0	115.0	58.5	66.9	56.6	62.8	69.2
Vegetables	Beans (000s T)	226	228	274	294	284	270	278	292
	Peanuts (000s T)	158	96	113	121	140	93	85	90
	Beans (000s ha)	698	659	790	1,009	833	779	790	800
	Peanuts (000s ha)	366	288	389	405	417	382	390	400
	Beans (T/ha)	0.32	0.35	0.35	0.29	0.34	0.35	0.35	0.37
	Peanuts (T/ha)	0.43	0.33	0.29	0.30	0.34	0.24	0.22	0.23
		<i>Total (000s T)</i>	<i>384</i>	<i>324</i>	<i>386</i>	<i>415</i>	<i>424</i>	<i>363</i>	<i>363</i>
Vegetables	Kg/cap.	17.2	14.0	16.2	16.9	16.7	13.8	13.4	13.7
Roots and tubers	Cassava (000s T)	9,738	10,094	8,198	4,303	8,273	8,103	9,100	8,774
	Sweet potato (000s T)	874	916	1,173	1,469	503	390	644	700
	Cassava (000s ha)	1,254	1,294	763	933	870	1,016	1,165	1,070
	Sweet potato (000s ha)	80	78	71	70	72	45	52	66
	Cassava (T/ha)	7.76	7.80	10.75	4.61	9.51	7.98	7.81	8.20
	Sweet potato (T/ha)	10.96	11.75	16.46	20.98	7.03	8.72	12.31	10.67
		<i>Total (000s T)</i>	<i>10,612</i>	<i>11,009</i>	<i>9,371</i>	<i>5,772</i>	<i>8,775</i>	<i>8,493</i>	<i>9,744</i>
Roots and tubers	Kg/cap.	474.0	476.5	393.1	234.6	345.8	324.1	360.3	339.4

Source: authors' elaboration based on data from FAOSTAT, MASA (2015), MASA (2016), INE (2019); FAOSTAT, available at <http://www.fao.org/faostat/en/#data/QC> (accessed 24 October 2019).