CLIMATE POLICY INITIATIVE

Challenges and Opportunities for Efficient Land Use in Mozambique: Taxes, Financing, and Infrastructure

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October 2016

A CPI Report

THE **NEW** CLIMATE **ECONOMY**

The Global Commission on the Economy and Climate

Acknowledgements

The authors would like to thank the New Climate Economy for supporting the writing of this report. Also, we thank Natasha Grist, Juliano Assunção, Angela Falconer and João Morgado for providing in-kind support and helpful advice.

Descriptors

Sector		
Region	Southern Africa	
Keywords	Mozambique, Land Use, Taxes, Financing, Infrastructure, Natural Resources Management	
Related CPI Reports	Business/Economic Landscape: Mozambique Physical Landscape: Mozambique Fiscal Landscape: Mozambique	
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About CPI

Climate Policy Initiative works to improve the most important energy and land use policies around the world, with a particular focus on finance. An independent organization supported in part by a grant from the Open Society Foundations, CPI works in places that provide the most potential for policy impact including Brazil, China, Europe, India, Indonesia, and the United States.

Our work helps nations grow while addressing increasingly scarce resources and climate risk. This is a complex challenge in which policy plays a crucial role.

Executive Summary

Mozambique has immense agricultural potential. Unfortunately, despite favorable weather and soil conditions, land resources, and an available workforce, the country remains a net food importer with rates of agricultural productivity well below international standards. Further, Mozambique is among the world's most vulnerable countries in light of climate change:[1] the use of drought resistant seeds and irrigation are rare, the majority of rural producers are focused on subsistence, and a dry year can lead to serious food security challenges.

Financing for measures that reduce risk and increase productivity, such as improved seeds and irrigation, could help address some of these issues. However, ensuring adequate food and water into the future also depends on the promotion of the long-term, productive potential of natural resources and the maintenance of their environmental functions. By implementing efficient and sustainable land use, Mozambique can align natural resources protection, reforestation, and avoidance of degradation with increased agricultural yields and food security.

While the government, private sector, and civil society in Mozambique have made progress toward solving some of the institutional and operational challenges of investing in these types of measures—in particular though the Comprehensive Africa Agricultural Development Program (CAADP) and government institutions like CEPGRI, IPEME, IPEX, CPI, IIAM, and CEPPAG—many gaps remain.

Within this institutional and operational context, researchers at Climate Policy Initiative—as part of the New Climate Economy project—examined the challenges and opportunities for investing in agriculture and natural resources management, with the goal of laying out next steps toward more efficient and sustainable land use in Mozambique.

Focusing on low-cost policy modifications, we found four ways to improve agricultural productivity and natural resource management:

1. **Simplify government tax and fee administration**, with an aim to reduce the costs imposed by bureaucratic time-delays.
2. **Develop public financial incentives and public private partnerships** (PPPs) capable of providing the tools to mitigate risk and allow investment.
3. **Prioritize key infrastructure projects** needed to stimulate investment in agriculture, including energy and irrigation systems.
4. **Increase revenue-sharing mechanisms** to incentivize natural resource protection.

1. Simplify government tax and fee administration

Tax rates for the agricultural sector are competitive, but bureaucratic delays impose high costs on trade

The government implemented important reforms in the last decade, with a major one being the creation of the Revenue Authority in 2006. However, tax system administration is still the primary problem affecting tax compliance by businesses. Concerns about arbitrary practices by tax officials, difficulty in accessing information on the tax system, and lack of online taxpayer services are larger concerns than the tax rates themselves. Since delays and tax system complexity impose significant costs on businesses operating in the agriculture sector, they discourage investment, including investment in productivity-increasing technology or long-term sustainability measures.

Income tax breaks are available and VAT is lower for agriculture compared to other sectors, although issues accessing these benefits impose high costs for many companies.

Agriculture has a special income tax that is considerably lower than for other sectors (10%, while the general rate is 32%). The rate can be even lower for big producers when they can access the Code of Fiscal Benefits. Moreover, there are opportunities for VAT exemption in the agricultural sector. However, the VAT system is not achieving its potential in terms of reducing tax barriers to investment in the agriculture sector. VAT refund processing can be very slow, which is especially costly for exporting companies or those investing in

1 Mozambique ranks 31st out of 192 countries regarding the Food Score of the Notre Dame University Global Adaptation Index (ND-GAIN), which captures a country's vulnerability to climate change, in terms of food production, food demand, nutrition, and rural population.

capital goods. VAT registration rules also add a barrier for enterprises interested in doing business with small producers.

Some port fees are high, but the more important trade issue is the time spent to conclude a transaction.

Imports of agricultural inputs still face many challenges. For example, poor infrastructure and the restriction on re-exports has led to low volumes of fertilizers getting into the country, which has translated to high costs for fertilizers for small producers. Businesses seeking to invest in export-oriented agribusinesses also face challenges including a lack of convenient warehousing, inability to support larger ships, unusual requirements as the Pre-Shipment Inspection, and the rule of obligating every ship to pay a scanning fee, even if it is not scanned. These issues can lead to significant border delays, which are costly in themselves and can impose further costs if perishable agricultural goods spoil. Streamlining export and import processes have the potential to make trade—both importing inputs and exporting products - more feasible for farmers.

Overall, we find that administrative delays in import-export and tax processes are likely more detrimental to the agriculture sector than the tax and fee rates themselves. These type of costs are additionally pernicious because the cost on farmers and agricultural businesses do not translate into revenue for the government. Streamlining processes in these areas could go far in increasing investor confidence and improving outcomes for farmers.

2. Develop public financial incentives and public private partnerships

Most farmers do not have access to credit at appealing rates, and while public-private partnerships can help streamline investment, they still face challenges and require further development

Ninety nine percent of Mozambican farmers are small producers cultivating less than 10 ha. Although access to credit is positively associated with increased productivity, data from the 2010 Agricultural Census show that only 2.3% of small farms borrowed money, while 7.0% of medium and 15.2% of large farms did so. This may be explained by several factors:

- **High interest rates of over 20%** for agricultural producers are standard. This is unsurprising in a context where collateral is unavailable due to non-transferability of land, currency risk is substantial, and risk management tools are lacking. However, high interest rates mean investment is costly for those who need a loan to increase production, impeding improvements in agricultural productivity.
- **Low levels of financial literacy lead to few transactions** between traditional financial institutions and small producers. Limited management skills and financial literacy mean that production records are generally poor or nonexistent, so evaluating the risk associated with an individual farmer is difficult.
- **Banks are often physically absent in rural areas, and there is a lack of other financial tools**, such as insurance instruments adapted to agricultural risks as droughts, floods, and infestations.

Public financial incentives such as rural credit and crop insurance are limited in Mozambique, and given very high commercial rates of credit, investment is often simply infeasible given typical farmer risk preferences. A system of incentives designed to minimize risk for farmers, perhaps by combination with insurance against (or repayment conditional upon the absence of) extreme weather events could go far in making investment feasible for small farmers.

Public-private partnerships (PPPs) have recently been emphasized as a potential strategy for supporting larger agricultural enterprises that may in turn provide support for contract farmers via supply chain linkages, contract farming arrangements, or revenue sharing agreements (described in more detail in Section ES4). However, the government's credit status and transaction costs associated with these PPPs are currently limiting their impact. Each public private partnership requires a public tender and extensive administrative process to be initiated. Unlike alternative programs, such as credit or input subsidies, this means that each deal must be customized, reducing the rate at which projects can emerge, and potentially increasing the risk of corruption.

Overall, developing new public financial incentives for small farmers while streamlining PPPs for larger farmers

could enable greater private investment in climate resilient and productive agriculture practices.

3. Prioritize key infrastructure projects

While infrastructure in general is expanding, irrigation and access to electricity are still very limited. Providing incentives for the private sector to invest in these key sectors may help expand access.

While there is evidence suggesting that improvements in road infrastructure could facilitate a substantial increase in agricultural production (Dorosh et al 2012), investments in other key sectors for agriculture, including irrigation and energy, are not keeping pace with the need.

Irrigation access is growing, but to date has reached only a very small fraction of irrigable land.

Irrigation expansion is driven by donor projects, which focus on a few key basins where flooding and droughts have been major problems. Additional policy to enable irrigation investment in other areas would help it spread to places with less urgent need but significant potential for productivity improvement. Policies to support smaller-scale projects where government and PPP's are not the principal actors may help enable more water access faster.

Energy expansion is limited by trade policies and excessive centralization

Energy is a critical factor for the agricultural sector: it is required to operate machinery and irrigation systems, and it is essential for processing, conserving, transporting and storing agricultural products. Mozambique has a low national electrification rate (20%, World Bank 2012) and there are large disparities between urban and rural areas - while electricity has reached 21% of urban households, less than 7% of the rural population has access to electricity (WHO, UNDP 2009).

Energy investment decisions are dominated by the central government through Eletricidade de Moçambique (EdM). The electric utility EdM has indicated plans to grow energy access through renewable energy—take for instance the approval of the creation of Mozambique's feed-in tariff, which applies to biomass, wind, small hydro and solar projects. While recent progress has been made, barriers remain to greater private investment in this key sector:

- There are no incentives available for off-grid energy;
- Large import tariffs of 17% are levied on all components of wind, solar, or other renewable energy systems;
- Skills needed for renewable energy deployment are limited.

Private investment in renewables should be facilitated

At present, the national strategy seems to assume that national energy fund (*Fundo de Energía*, FUNAE) will itself deploy the bulk of renewables in Mozambique. However, given appropriate incentives, agricultural businesses throughout the country could begin installing at much higher rates, and these power sources would also likely benefit local communities. Additional spending on training in, for example, solar installation, would make use of solar for agricultural cooling or powering irrigation systems much more practical. Given transport costs, these technologies are potentially competitive with diesel fuel if incentives are aligned, and if the human capital exists to deploy them at low cost.

4. Increase revenue-sharing mechanisms for projects that protect natural resources

Public and private revenue transfers are key to guarantee the approval and involvement of communities on rural development projects

Effective natural resource protection policy becomes even more important as policies to enable agricultural investment are pursued. Making investment easier increases the opportunity cost of leaving natural resources intact, and without effective policies

to preserve natural resources for the benefit of communities near them, the incentive to convert land to agricultural use may well increase.

CPI's Production-Protection framework focuses on two elements on the natural resource protection front. First, an effective cap on natural resource use, usually through the establishment of protected areas, is critical to protecting these resources over the long term. Second, protection initiatives, both public and private, need to share the benefits of protection with local communities. In the case of protected areas that generate revenue today, such as game reserves and buffer zones for forest plantations, benefit-sharing can simply mean distributing a share of revenues to neighboring communities who are permitting use of their land. In the case of protected areas established for long-term benefit and without immediate revenue, it falls to the government to compensate communities for contributing to the long-run benefit of the country.

The Mozambican government presently has two main revenue-sharing initiatives in place. The first is a revenue-sharing scheme by which 2.75% of the royalties of natural gas and mining activities must be allocated to the communities where these activities are being operated, which is extremely low by international standards. The second is a law in the Forestry and Wildlife Law that returns 20% of collected licensing fees to the community from projects such as private forest and game reserves, which can earn revenue from tourism and sustainable natural resource harvest. Unfortunately, revenue-sharing rules are not being consistently implemented: the resources returning to the community are still low—in the first case because the licensing fees themselves are low, and in the second because in some cases funds designated for return to communities are not, in fact, returned.

The private sector also has some interesting schemes aimed at local community development, and, when these transfers are well designed and implemented, they result in communities engaged for the success of the project. For example, the New Forests Company in Niassa manages over 9,000 hectares of conservation land, and has established a revolving fund for community projects in neighboring communities. Other companies in the region (perhaps most notably the Chikweti company in the same province) have been forced out due to poor relations with neighboring communities, showing that revenue sharing is a critical business practice as well as an important part of an effective natural resource protection program.

Improving the implementation and size of these revenue transfer systems may be a promising path forward to promote high-productivity agriculture while protecting natural resources. To this end, we make three primary recommendations:

- Shares from extractive projects, most notably the prospective gas development in Cabo Delgado, should be revisited to more closely match international standards—Uganda, Cameroon, and the Democratic Republic in the Congo, for example, have rates between 10 and 25%. Moreover, higher rates on revenue-sharing back to communities are a way to make investors incorporate the environmental costs on their extractive projects.
- Rules regarding community shares from protected areas should be consistently applied.
- Guidelines for businesses on effective benefit-sharing arrangements based on success stories such as the New Forests company could assist new businesses in avoiding past mistakes.

Next Steps

The work described in this papers focuses on a small subset of the issues affecting agricultural development and natural resource protection. This work has led to new questions, and other important questions remain. Moving forward, we hope to examine opportunities for public finance and agricultural risk mitigation in greater detail. Further, more detailed work is needed on best practices, successes, and failures on the natural resource protection front. Finally and perhaps most importantly, the recommendations in this document are preliminary—more detailed analysis is required to precise measures that will alleviate the general issues we identify.

Contents

1. Introduction

Agriculture is central to the livelihood of most Mozambicans: It represents over 25% of Mozambique's GDP and employs 80% of Mozambique's population. The country has ideal growing conditions, with plentiful water supply combined with diverse micro-climates to support a broad range of agricultural commodities including cashews, maize, soybeans, sugar, cassava, and sesame. However, despite strong agriculture conditions, Mozambique does not produce enough food for domestic consumption, remaining a net food importer (IMF 2014).

This situation can be explained by low productivity: yields of rice, maize, cassava, and sweet potato are among the lowest in Southern Africa.[2] However, low productivity itself is related to many challenges faced by the sector. Increasing productivity requires both technical knowledge and capital investment, and Mozambican farmers do not have access to finance at rates and timelines consistent with the risks they face. As agriculture and land use change, including deforestation, is responsible for almost a quarter of global manmade greenhouse gas (GHG) emissions (IPCC 2014), agricultural production today must be balanced with natural resource management for the benefit of future generations.

In order to address resource conservation and restoration, bolster the resilience of rural livelihoods and boost productivity—thereby promoting rural development and poverty reduction—Mozambique needs an integrated approach to managing natural resources and agricultural production. Through economically feasible land use interventions, it can provide more resource-efficient and climate-compatible growth, while also achieving reductions of GHG emissions. Even more importantly, basic needs must be met before natural capital protection is feasible or just. For this reason, this paper focuses on solutions for enabling increased production and agricultural risk reduction, bearing in mind that medium and long-term improvements in natural resource management are also necessary to sustainably manage forest and water use.

The Mozambican government is actively engaged in the process of agricultural development. With its National Program for Rural Development, also known as *Programa Estrela*, led by the recently established Ministry of Land, Environment, and Rural Development (*Ministério de Terras, Ambiente, e Desenvolvimento Rural*, MITADER[3]), the government intends to deal with low productivity rates, unsustainable use of natural resources, and climate vulnerability through a single integrated land management strategy. For example, the government is preparing a new program, funded by the World Bank in a total amount of USD 80 million, that seeks to promote rural value chains and improve the wellbeing of the rural population by integrating smallholder farmers into promising supply chains in agriculture, forestry and nature-based tourism. Moreover, the new Ministry controls land concessions, forest policy, and environmental regulation, while extension services remains the charge of the Ministry of Agriculture. This reflects the government's apparent view of agricultural development, which focuses jointly on supporting subsistence farmers through the Ministry of Agriculture and promoting commercial farming principally through MITADER.

Government support for new commercial agriculture projects is principally available in the form of tax benefits and the opportunity to form Public-Private Partnerships, which can reduce the cost of finance by including government loan guarantees and reducing regulatory risk. In general, these projects bring together government, Mozambican partners, and international partners: The government provides tax benefits and guarantees; Mozambican partners provide local knowledge, land, and capital; and international partners bring technical expertise and additional capital. As part of the land concession process, commercial projects work with communities to develop benefit-sharing and natural resource protection arrangements.

This document examines the policies that affect the bankability[4] as well as the social and environmental impact of commercial agricultural investments in Mozambique. First, in Section 2, we examine taxes and fees, and assess which taxes and fees are most likely to have an impact on project feasibility. Second, in Section 3, we discuss the finance tools available for famers, looking closely at the reasons for restricted access to credit and examining how public private partnerships can help overcome the lack of credit support for bigger projects. Third, in Section 4, we examine the provision

2 The sector is dominated by crop production, which represents 78% of agricultural GDP, while forestry represents 9.1%, livestock 7.1%, and fisheries 5.6% (MINAG 2011).

3 Although being headed by MITADER, Programa Estrela is an interinstitutional coordination effort.

4 In this document, we use "bankability" to refer to the feasibility of financing investments projects.

of public goods important to agriculture, specifically roads, ports, energy, and irrigation.

Finally, in Section 5, we assess policies and programs related to natural capital management designed to ensure that agricultural and natural resource extraction projects benefit local households and support natural resource protection. We examine revenue transfers that can be separated into two types: formal legal initiatives that transfer resources to local governments, and custom arrangements between companies and local communities reached as part of the community consultation process.

By examining commercial agricultural investment from this range of perspectives, we seek to identify areas where better policies and business practices can lead to improved outcomes for investors, communities, and the environment. Our discussion of taxes and fees focuses on the investor's perspective, as these policies are central to Mozambique's competitiveness as an investment location. Our infrastructure discussion weighs the impacts of investment on three groups: investors, who generally benefit from improved infrastructure; communities, who are also likely to benefit from increased access to markets, but face the risk of displacement if their land's appeal to commercial investors increases; and ecosystems, for which improved infrastructure can increase risk of unsustainable extraction in the absence of effective regulatory policies. Our natural capital management discussion focuses on the effectiveness of current policies in mitigating the risks and sharing the benefits of commercial agricultural development with local communities and their ecosystems.

2. Taxes and Fees

Government imposed taxes, tariffs, inspection fees, and administrative procedures can either support or discourage investment in agriculture. A well-designed system can promote investment while protecting natural resources and safeguarding local rights, while a poorly-designed system can discourage investment and productivity increases. The government's role is to design a tax system that is efficient in allocating investment across sectors and promoting private sector development. For agricultural development, tax policies are extremely important: when taxes and import duties increase the cost of capital investment or ports are unduly expensive to use, they discourage investment.

This section discusses the taxes and fees faced by agriculture investors in Mozambique and notes where existing literature has identified policy solutions with the potential to make investment easier. It first covers the tax system generally, then focuses on most important taxes for agriculture. We discuss how specific taxes, such as the VAT and "Taxa Liberatoria", affect the development of the sector, and conclude the section having a closer look on the effect of taxes and fees on international trade.

Overall, we find that tax rates are comparable to neighbors and thus unlikely to be significant barriers, but fees and administrative delays associated with import and export are significant and likely to discourage investment.

2.1 The Tax System

The government has implemented important reforms in the last decade. However, quality of tax administration is still a major concern that affects investment and business operations, as well as government revenues

The current tax system in Mozambique conforms broadly to international standards[5] for good practice in developing countries, with the main sources of revenue coming from the value added tax (IVA) and corporate and individual income taxes (IRPC and IRPS, respectively)(IMF 2008). The government has clearly put efforts to implement reforms focused on improving the efficiency and capacity of the tax administration, for example, with the establishment of the Mozambique Revenue Authority (Autoridade Tributária) in 2006, and the modernization and simplification of tax administration through the implementation of the Single Electronic Window in 2011.

However, Mozambique still falls behind in the *Doing Business 2016*[6] ranking in the category of "paying taxes" (World Bank 2015). Using an index that records the taxes and mandatory contributions that a medium-size company must pay as well as measures of the administrative burden of paying taxes and contributions, this rank show the easiness of paying taxes and complying with the tax system. For the overall ease of doing business, Mozambique ranked 14th among the 47 countries in the Sub-Saharan African region. However, for the category of "paying taxes" Mozambique fell behind, ranking 20.

The table below shows some important features of the tax system's influence in the business environment: how much taxes represent in terms of the company's profit, how many taxes companies need to pay, and how much time it takes to pay those taxes. In all these categories Mozambique fell behind: compared to neighboring South Africa, paying taxes requires 30 additional payments. Thus, although the total cost (and revenue to the government) of taxes is not unusually high, the administrative burden associated with paying them is.

Complexities affecting tax compliance are a serious barrier to doing business in Mozambique. Although the number of taxes private companies need to pay is high, the main issue identified by private investors is the procedures required to pay the taxes: arbitrary and punitive enforcement practices by tax officials, complexity of the tax system, lack of taxpayer services, and difficulties in recovering refunds are far more prevalent concerns than tax rates and number of taxes

5 Between 1998 and 2002, Mozambique made a big reform in the tax system. Subsequent studies by the IMF and the World Bank concluded that it conformed broadly to international best practices for developing countries (IMF 2005, FIAS 2006).

6 The Doing Business is a project created by the World Bank Group that provides objective measures of business regulations for local firms in 185 countries.

Table 1: Tax system indicators in Sub-Saharan countries

COUNTRY	TOTAL TAX RATE (% OF COMMERCIAL PROFITS)	RANK (SUB-SAHARAN REGION)	TAX PAYMENTS (NUMBER)	RANK (SUB-SAHARAN REGION)	TIME TO PREPARE AND PAY TAXES (HOURS)	RANK (SUB-SAHARAN REGION)
Angola	48.4	34	30	12	282	30
Botswana	25.1	5	34	22	152	7
Kenya	37.1	20	30	12	201.5	15
Madagascar	38.1	21	23	3	183	13
Malawi	34.5	15	35	24	174.5	9
Mozambique	**36.1**	**17**	**37**	**26**	**217**	**20**
Rwanda	33	13	25	5	109	3
South Africa	28.8	6	7	1	200	14
Swaziland	34.7	16	33	19	110	4
Tanzania	43.9	25	49	35	179	10
Zambia	18.6	2	26	7	157	8
Zimbabwe	32.8	12	49	35	242	22

Note: Total tax rate measures the amount of taxes and mandatory contributions payable by businesses after accounting for allowable deductions and exemptions as a share of commercial profits. Tax payments by businesses are the total number of taxes paid by businesses, including electronic filing. The tax is counted as paid once a year even if payments are more frequent. Time to prepare and pay taxes is the time, in hours per year, it takes to prepare, file, and pay (or withhold) three major types of taxes: the corporate income tax, the value added or sales tax, and labor taxes, including payroll taxes and social security contributions. Source: World Bank, Doing Business project

(World Bank 2003, FIAS 2006, Nathan Associates 2007). Low quality of tax administration also imposes difficulties in meeting the government's target revenues as companies take advantage of the government's limited capacity to monitor compliance and create corrupt schemes to evade taxation (Nathan Associates 2009).

POLICY RECOMMENDATIONS

Simplifying the tax system into fewer payments is the most efficient and obvious measure the government could take to facilitate and ease compliance. However, this may be difficult to implement in the near term, so, in addition, we recommend several measures to improve the situation more immediately.

Coordination and training for tax administrators: Companies complain that tax authorities lack knowledge of tax legislation (SPEED 2012), which highlights the need for training in tax administration. Through these trainings we can expect that the law will be administered more uniformly across tax offices, which will improve competition in the private sector by eliminating unfair advantages caused by uneven tax administration. To deal with ambiguous legislation that allows for different interpretation by taxpayers and Revenue Authority officials, the government should organize regular workshops between all actors involved in the tax system. Furthermore, from a revenue perspective, training in advance audit skills for dealing with large taxpayers is especially important.

Information disclosure: One of the main issues facing taxpayers is that there is no easy and open access to current legislation. A consistently updated Revenue Authority webpage would facilitate the process of improving access to information such as tax legislation in both Portuguese and English and downloadable tax forms. This information should also be available at the Revenue Authority's posts of tax collection, as most of the procedures required need to be done in person at these posts.

Regional agreements to ease trade: If regional governments can harmonize their trade policies, particularly for fertilizers, by eliminating or reducing tariff and non-tariff barriers,[7] private investments will benefit from policy measures that create business-friendly procedures in licensing and taxation while reducing wait times at the port and borders with neighboring countries. By lowering trade costs and relaxing the constraints faced by many firms in accessing essential inputs, services, and skills, deeper regional integration can lead to diversification

7 Nontariff barriers in Mozambique are a major concern. Tariffs for SADC fell to zero in 2012. However, imports fell from USD 8.6 billion in 2012 to USD 8.1 billion in 2013, contrasting with what the expected surge in imports once SADC tariffs were eliminated, what suggests that nontariff barriers are restricting imports.

with higher value-added production and trade (World Bank 2011). Regionally, we should highlight Mozambique's membership in the Southern Africa Development Community (SADC), which provides Mozambique access to an agricultural market worth over USD 3 billion (USAID 2012). Making greater use of this initiative to break down trade hurdles, such as implementing standard procedures and forms at the borders, can help scale this market up with benefit to Mozambique.

2.2 Taxes in the Agricultural Sector

The agriculture sector benefits from an income tax rate of 10%, which is very low. Moreover, when the Code of Fiscal Benefits is applied, it provides the lowest taxes on any sector in Mozambique. However, these benefits are not being accessed fairly across agriculture enterprises.

Although the general income tax in Mozambique is high when compared to other countries in the region (Mozambique business income tax is 32%, compared with 30% in South Africa and 28% in Mauritius), Mozambique's tax regime is extremely favorable to agriculture. Agricultural enterprises face an income tax rate of 10%, being the only sector that gets a special rate of tax under the normal regime[8]. In addition, the companies that succeed in accessing benefits from the Code of Fiscal Benefits receive a reduction of 50% from the general rate between 2016 and 2025, which brings down the corporate tax rate to 5%.

That said, accessing the Code of Fiscal Benefits is not an easy accomplishment. Due to the minimum size requirement, small businesses cannot access the benefits bigger companies do. On the other hand, for larger firms, negotiating the bureaucracy to access benefits under the Fiscal Benefits Code, which requires approval from the Investment Promotion Centre (*Centro de Promoção de Investimentos*, CPI), the government agency responsible for attracting Foreign Direct Investment, is often so cumbersome and costly, that the effort and time spent reduces the benefits. In fact, it is typically only larger (incorporated) farmers who benefit from the reduced rate of 5%. Considering that smallholders producing for subsistence are not included in the tax system and therefore are not paying taxes, it is the mid-size and emerging farmers who are being disadvantaged by this tax policy.

2.2.1 RURAL LAND TAX

The system of annual land fees, which work as a rural land tax, needs to be improved in order to guarantee the most efficient land use.

The Land Law in Mozambique and its consequences for the business environment is beyond the scope of this paper. However, we should highlight here the role played by the system of annual land fees that work as land tax. Articles 28 of the Land Law impose an authorization fee, payable at the outset, as well as an annual fee, which may be progressive or regressive "in accordance with the investments realized." Article 29 provides a number of exemptions, including one for "family uses, local communities, and the individual persons who belong to them," in effect exempting most smallholder farmers (Nathan Associates/USAID 2007).

The Land Law Regulations specify rates according to a complex mix of factors such as location (whether in Maputo Province or not), holding size (below 100 ha, between 101 and 1,000 ha, and over 1,001 ha), nationality of the owner (whether Mozambican or not) among others, which seek to reflect both land value and certain public policies - for example, by favoring nationals. The tax rates span a large range, from MZN 7,500/ha up to MZN 180,000/ha. A previous study by the World Bank concluded that it is far more complex than necessary and does not achieve the policy objectives it seeks to pursue, having a more relevant impact on the widespread failure to collect fees (World Bank 2005). Moreover, differentiation in the current fees system favors extensive land use (which encroaches on natural resources) instead of intensive (or more

8 Moreover, agricultural cooperatives are subject to the general rate reduced by 50%, which corresponds to an actual rate of 16% - with no forecast to suspend this special rate.

Table 2 - Annual land tax rates (000s MT per hectare)

LOCATION	HOLDING SIZE	AGRICULTURAL USE EXCLUDING SPECIAL CASES		CATTLE-BREEDING, WILDLIFE FARMING, PERMANENT CROPS	
		NATIONALS	NON-NATIONALS	NATIONALS	NON-NATIONALS
Maputo Province	Up to 100 ha	24.0	30.0	3.2	4.0
	101 - 1000 ha	36.0	45.0	3.2	4.0
	> 1000 ha	48.0	60.0	3.2	4.0
Other Provinces	Up to 100 ha	12.0	15.0	1.6	2.0
	101 - 1000 ha	18.0	22.5	1.6	2.0
	> 1000 ha	24.0	30.0	1.6	2.0

Note: these are the rates valid for standard land, that is, the ones that are not categorized as "development zones" or "partial protection zones". There is a differentiation in national category whether the land is used by non-profit organizations. Source: Regulamento da Lei de Terras, Maputo, 1999.

highly productive) land use, subsidizing large-scale agricultural operations by giving concessionary rate for cattle breeding, wildlife farming, and permanent crops. For example, we see in the table below that the annual land rate for a non-national using the land for cash crops (category B) in provinces outside Maputo is MZN 15,000 per ha, while a non-national rearing cattle would pay less than 15% of this rate.

POLICY RECOMMENDATIONS

Improve access to the Code of Fiscal Benefits: Given that accessing the Code of Fiscal Benefits (CBF) is so critical to making Mozambique an attractive place to invest, there are two interesting reforms to improve access to the CBF:

- The current system discriminates against small businesses, as they can not handle all the administrative costs of the process to access the CBS' benefits. By making the CBF automatic to all investors—that is, they would not have to apply and deal with bureaucratic procedures to get its benefits—the government can not only provide attractive incentives to all investors, but it can also ease the burden on the government's administration.
- There could be a redesign in some aspects of the Code regarding training. Currently, the deduction for expenses on professional training of Mozambican locals is limited to up to 5% of taxable income. This limit is unreasonable given the lack of qualified professionals, which is a broader issue affecting many economic sectors and, as such, training should be more broadly promoted since it creates positive externalities for the economy by upgrading labor force skills. Indeed, some countries in the region such as Botswana and Swaziland allow a super-deduction (more than 100 percent) for training expenses, to provide an effective subsidy for these desirable activities (Nathan Associates Inc 2009).

Simplify and modify the rural land tax: The current Land Law fees give little incentive for land rights holders to maximize land productivity, as landholders who lack the capital or the interest in cultivating their own land are unable to transfer it to another party. This means that land goes uncultivated. In this sense, the government should review land fees from a new perspective: not as revenue source, but actually as a policy instrument for creating a cost for holding land idle, aimed at precluding holding DUAT (*Direito do Uso e Aproveitamento de Terra*, which gives holders the right to use and benefit from the land) profitably without developing the lands. The government should simplify the current annual fees, since it is much more important to apply and enforce a simple structure of land taxes with minimal differentiation between different categories of user and use than to have a complex system that cannot be implemented (Nathan Associates Inc. 2007).

2.3 Value-Added Tax (VAT)

Although the agricultural sector receives VAT benefits, challenges in the application of these benefits impose high costs for companies—especially export agencies

The Mozambican VAT rate of 17% does not differ much from other African countries—in Southern African Development Community (SADC) countries, the standard VAT rate varies from a low of 12% to a high of 18%, averaging 16.6%. VAT as a percentage of GDP in Mozambique is below the average of 14.1% for other African countries, yet the VAT in Mozambique is an important revenue raiser, accounting for almost 50% of fiscal revenues in 2014 (IMF 2016).

There are many incentives given as exemption from VAT in the agricultural sector. The main ones are:

- Supplies of goods and services, made in the framework of an agricultural activity, forestry, livestock and fisheries, including the transformation of goods made with the producer's own products from using his own resources;
- Whether imported or not, the supply of equipment, seeds, breeding, fertilizers, and pesticides;
- Inputs for animal feed production (especially soya) to be used as raw materials in production of animal feed, which is leading to growth in soya production due to the growth of the poultry sector.

The most important issue regarding the VAT structure is the fact that the refund process is not working properly, which particularly affects exporters and capital investors.

VAT refund efficiency in Mozambique is well below the average of SADC countries (World Bank 2014). While improvements have been made in the last years, there are still many firms complaining that they wait months for refunds, and that valid refund claims are routinely denied for technicalities (USAID 2012). These delays affect the cash flow of enterprises and, in the case when VAT refunds are not issued at all, all the tax benefits of the Code of Fiscal Benefit regime are completely undone by the non-refund of VAT, which acts as an implicit sales tax on capital.[9]

When the VAT refund system does not work properly, the VAT becomes a tax on production rather than a tax on final consumption, distorting its initial purpose. This increases production costs and creates inefficiencies, causing the tax system to unduly influence production decisions. In addition, in a country with high levels of corruption, weak public administration standards, and a weak judiciary (Transparency International 2014), delays in the VAT refund process create opportunities for corruption by giving companies incentives to pay bribes for tax officials to accelerate the process in a complex bureaucratic environment where a few public servants have significant discretion.

Although it is only a small fraction of registered enterprises that incur large costs due to VAT refund delays (Nathan Associates 2007), the broader impact is still a serious economic problem. The most basic reason is that the adverse effects fall selectively on important activities, especially exporting. Since VAT is a tax on final consumption, exporters are continually in a net credit position. Refund delays act as a temporary tax on exports, reducing the profitability of export sales, which undermines incentives to invest; or, alternatively, increasing the price of export products, undermining the competitiveness of local industries. In any case, the VAT discourages exports. Delays in VAT refunds also adversely affect capital investment. Firms undertaking major investments typically encounter a large net credit position from the payment of VAT on procurement of capital goods. If the refunds are not paid promptly, the delay acts as an extra tax on investment, creating impediments to private sector development.

The second issue related to VAT is registration. Although there is no VAT registration threshold, there is a VAT payment threshold—firms with turnover less than MZN 750,000 are exempt from paying VAT, but are still required to register. Requiring everyone to register is a waste of not only scarce tax administration resources, but also firm resources, as compliance costs for small and medium-sized firms are quite large (DAI and Nathan Associates 2012).

A third issue related to VAT is the use of non-standard language in VAT legislation, creating ambiguity as to what is exempt and what is zero-rated.[10] To effectively

9 To clarify the size of the issue we should highlight that data till 2012 show that unsettled VAT refund requests have accumulated and have reached 1.3% of 2013 GDP (IMF 2013).

10 Exempting a firm or sector from VAT is not relieving that firm from VAT. It means that VAT is not charged on supplies, but not that VAT is not paid. A firm that is exempt or that supplies exempt goods will pay VAT on inputs used to produce those supplies, and because the firm does not charge VAT on output, it will not credit the VAT paid on inputs against VAT charged on supplies. That implies that, in the case that the firm is in the middle of the

remove VAT from a good, the good must be zero-rated. A firm supplying zero-rated goods charges VAT on the supply at the stated rate of zero and then can credit the VAT paid on inputs against the VAT charged on supplies. The VAT paid on inputs is therefore fully recovered and the VAT remains a tax on consumption, not production. In Mozambique, however, there is confusion over whether goods are exempt or zero-rated due to different interpretations by different tax offices, which opens space for companies to lobby tax officials to interpret the law in a manner to give tax benefits (DAI and Nathan Associates 2012). This confusion is exacerbated by poor availability of taxpayer services and taxpayer education functions in the Revenue Authority.

Finally, there is evidence that, because a firm reduces the VAT owed to the government by the VAT it pays to suppliers, VAT registered firms prefer to do business with other registered firms (de Paula & Scheinkman 2010), demanding a VAT invoice for all purchases to claim for refund. That is, the tax legislation only allows "officially documented expenses" as deductible for tax purposes, which are obtained from the Revenue Authority and are given only to registered taxpayers.[11]

This feature of the VAT contributes to some extent to the problems faced in the agricultural sector in Mozambique by hindering business linkages to small producers. Firms that interact with unregistered smallholders have taken varying approaches to dealing with this issue: Some have had employees register for the ISPC and funneled purchases through them, and others have developed their own invoices, which are sometimes rejected by the government. What is more concerning is that some firms have simply refused to buy from unregistered farmers (DAI and Nathan Associates 2012). So, while the intent of these regulations was to encourage registration, there is some evidence that it has the unintended consequence of discouraging potential buyers from interacting with small farmers, which directly affects the income of smallholders.

production chain, the VAT will cease to become a tax on final consumption and will become a tax on inputs.

11 If a firm does business with an unregistered person or firm and claims the expense, the fine is 35% of the undocumented expense, and the deduction is disallowed for computing taxable income, which means another 32% of the expense is added to the tax bill (for an IRPC firm).

POLICY RECOMMENDATIONS

Improve efficiency of VAT refund: The Revenue Authority should guarantee it has the funds to make the reimbursements. It could create a dedicated subaccount to pay VAT refunds, to be regularly replenished by the refund claims received to prevent the accumulation of new arrears (IMF 2016). Additionally, the government could allow firms with excess VAT credits (for example, due to import of capital goods) to use them to offset other taxes already incurred, diminishing these firms request of VAT refunds. The government could also follow the example of Portugal and adopt a simplified VAT refund process using computerized risk-assessment and automatic payment for low-risk claims. Alternatively, it could employ a "gold card" as in Pakistan's system, which provides automatic refunds to enterprises that have established a record of excellent tax compliance.

Make VAT registration voluntary below the payment threshold: VAT registration should not be used as tool to track taxpayers. In this context, VAT registration should be directly linked to the payment threshold, making it required only for firms that have turnover greater than that threshold. Firms with turnover less than that should be exempt from VAT and should be allowed to voluntarily register for VAT. In this case, firms with low turnovers but that nevertheless deal with registered VAT traders may still want to register, so that VAT paid on inputs can be credited against VAT charged on output. Another important step is to expand registration of farmers who are competing with duty free imports (such as soybean producers); buyers (mainly for poultry feeding) will prefer to buy from registered importers than from local producers in order to get the refund.

Resolve ambiguity among zero-rated and exempt supplies: the VAT legislation should be amended to clearly state which supplies are exempt and which are zero-rated. In this amendment process, the government should avoid the temptation to increase the number of exemptions and zero-rating of domestic supplies, as the VAT structure prevents it from being the best way to protect the agricultural sector.

Develop official invoice templates: The Revenue Authority needs to develop invoices that can be issued by purchasing firms on behalf of the supplier. These invoices will serve to document expenses by firms buying agricultural products from smallholder producers who are not registered taxpayers, and these expenses will be deductible for income tax purposes.

Additionally, through the register of these invoices, the Revenue Authority would have access to information of non-registered farmers what will allow to scrutinize any farmers who are are not complying with tax regulations.

2.4 Taxa Liberatoria

The Taxa Liberatoria, which affects unregistered farmers, creates a barrier for companies doing business with small producers

The "Taxa Liberatoria" is a 20% withholding tax that companies that do business with an unregistered person or firm are supposed to pay. In theory, the purchaser of goods or services withholds 20% of the contract price so as that expense is tax deductible for income tax purposes, and then remits that value to the Revenue Authority. However, considering that many small farmers sell limited quantities of products and most have no formal taxpayer identification number (NUIT), which makes registering for tax purposes impossible, "taxa liberatoria" imposes a higher cost for enterprises who do business with small farmers.

If a firm can be exempted of this withholding tax, it creates a distinct competitive advantage. And there are some cases of the Ministry of Finance exempting some transactions and firms from the "taxa liberatoria," including grain buyers, large-scale buyers of commodities, cotton buyers, and also the tobacco industry. This means that some large companies get special treatment with respect to the withholding tax, leaving behind small and medium-sized firms.

POLICY RECOMMENDATION

Exempt smallholders from "Taxa Liberatoria": Even though registration by small farmers brings very little revenue, registration has high costs both farmers and also to the government. On the one hand, farmers must register and provide documentation of purchases when no tax will ever be charged. On the other, the government wastes time and money chasing small amounts of tax revenue. Instead, the government should develop rules so that "*taxa liberatoria*" is not applied to smallholder farmers (DAI and Nathan Associates 2012).

2.5 Taxes and Fees on International Trade

Taxes on international trade are consistent with neighboring countries, but port fees are high and administration can be time consuming. This is particularly costly for exporters of perishable agricultural products.

International trade flows are major determinants for agriculture. Through imports, a country can have access to key inputs capable of significantly increase production and productivity. On the other hand, exports of products means access to a larger market and its implication for agricultural growth and development is considerable. The main challenges faced by inputs importers and good exports regarding taxes and fees, presented below, are related to high fees and delays due to unusual legal requirements.

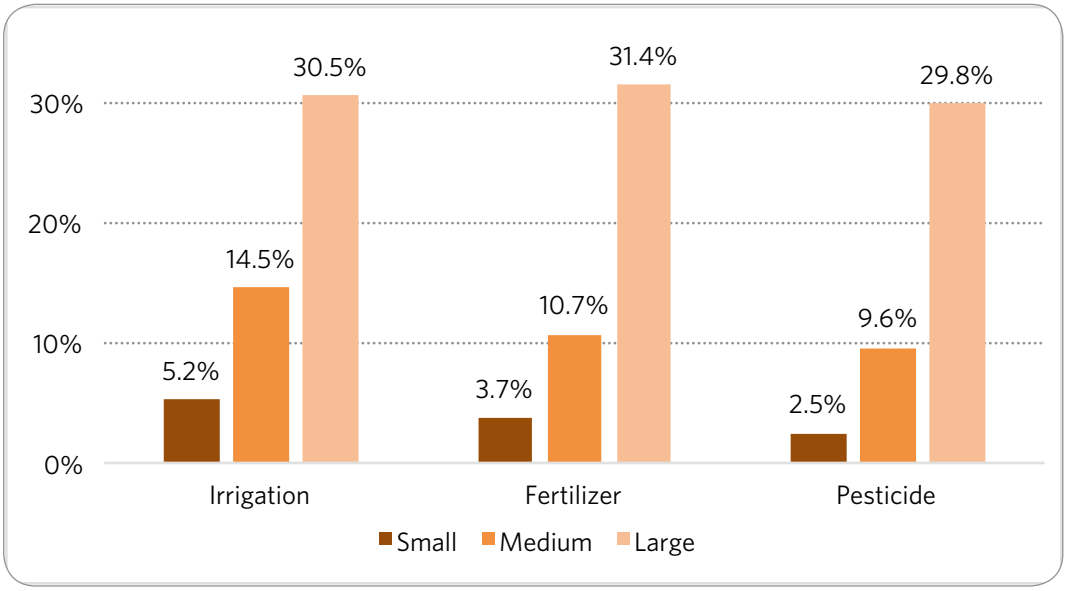
2.5.1 IMPORT OF INPUTS

Imports are key in providing three main inputs to increase agricultural productivity: equipment, fertilizer, and seeds. Generally, import duties in Mozambique range from 0 to 20% depending on the types of goods.[12] However, for machinery and equipment, the agricultural sector benefits from an exemption of import duties on equipment and accessories included in class "K" of the Customs Tariff Schedule.

As there is not a developed national market for fertilizers and import rates are high, most small producers do have access to fertilizers.

12 20% for consumer goods, 7.5% processed raw materials, 5% for capital goods and fuel, 2.5% for raw materials and 0% for basic goods

Figure 1: Use of agriculture technologies by farm size



Source: INE Agricultural Census, 2010

Most fertilizer in Mozambique is used in large-scale agricultural plantations or through the contract farming systems that some of these large-scale agricultural firms manage—most of the fertilizer brought into the country is used for tobacco and sugarcane production, with less than 10 percent going to other crops (Ministério da Agricultura 2011). These firms generally import their fertilizer stocks directly and do not participate greatly in the fertilizer distribution and marketing chains serving smallholder farmers. The graphic below, using data from the 2010 Agricultural Census, shows that only 3.7% of smallholder farmers use any inorganic fertilizer. The main reason is that this input is costly, since it is produced over-seas and shipped inland from Mozambique's ports or, more commonly, imported into South Africa from overseas sources and then re-exported to the Mozambican market.

High fertilizer prices are related to two main factors: low volumes of fertilizer import/re-export due to high taxes, and poor infrastructure of roads and ports. Besides having higher import rates than neighboring countries,[13] with a rate of 2.5%[14], most of the high costs of fertilizer imports derive from indirect taxes and levies. For the purpose of illustration, we can cite the calculations made by the National Directorate for Agrarian Services of the cost to importing 1 tonne of NPK fertilizer at the port of Beira. The FOB price is fixed at USD 535, with an added 12% distributed between insurance and sea freight and logistics, which brings the CIF price at the port to USD 599,20. Then, additional costs are added, including import duties (2.5% if it comes from a non-SADC country), clearing agent cost, operation fee of the Single Electronic Window (0.85% on FOB), service fees of non-intrusive inspection (USD 115 per container), port charges, and cost of transport to the factory gates. At the end, the final price comes to USD 800.34 per tonne (USD 40.2 per 50 kg bag). Thus, the main driver of the high price of fertilizers is not import costs, even when they are present. These costs add up to only 35% of the FOB price, a lower portion than in other African countries, while the larger drivers of high cost appear to be internal transport, which accounts for 69% of the total cost (DAI and Nathan Associates 2015).

2.5.2 PORT FEES AND DELAYS

For exporters, the biggest constraint is not direct taxes, but instead the time spent to conclude a transaction

Mozambique does not levy any specific export taxes on agricultural products, other than cashews.[15] It also does not provide any export subsidies. However, it is important to consider other non-tariff costs implied in trade of products, particularly time delays associated with inspection and administrative processes, which, in Mozambique are significant.

13 Although direct taxes and levies were estimated to account for only 1.8 percent of the delivered cost of fertilizer up-country, this level of taxation is 3 times higher when compared to Tanzania (0.5 percent) (Chemonics and IFDC 2007).

14 Although it is waived within Southern Africa Development Community (SADC).

15 The government imposes an export tax of between 18% and 22% of FOB price on raw cashews to encourage in-country processing, as determined by the cashew institute (INCAJU).

The main cause of delays at border crossings is the lack of border facilities, modern information and communication technology and banking facilities, and the resulting lack of electronic payment support (Nathan Associates Inc. 2007). Customs lack modern facilities and adequate equipment to facilitate controlling and clearance procedures and the restricted opening hours of the borders do not permit an efficient flow of commodities.

Table 3 - Port performance compared across southern Africa

PERFORMANCE AND PRICE	CAPE TOWN, SOUTH AFRICA	DURBAN, SOUTH AFRICA	PORT ELIZABETH, SOUTH AFRICA	WALVIS BAY, NAMIBIA	LUANDA, ANGOLA	BEIRA, MOZAMBIQUE	MAPUTO, MOZAMBIQUE
Container dwell time (average, days)	6	4	6	8	12	20	22
Truck-processing time (cargo receipt and delivery, hours)	5	5	5	3	14	7	4
Container crane productivity (container per hour)	18	15	15		7	10	11
Container-cargo handling charge (USD per TEU)	258	258	258	110	320	125	155
General-cargo handling charge (USD per tonne)		8	8	15	9	7	6

Note: TEU = twenty-foot equivalent unit. Source: AICD ports database

Table 3 compares performance and price across the main ports in southern Africa (4 in South Africa, 1 in Namibia, 1 in Angola and 2 in Mozambique), while Table 4 shows costs to import and export at ports compared with other coastal countries in Africa. We see that while Mozambique fares relatively well in the indicators related to price (especially the handling charge), as well as for port fees, it presents the worst performance regarding time. This implies that the government should focus on more structural changes, especially regarding the development of good infrastructure that can improve the time to conclude a trade operation.

Unusual requirements, such as imposition of scanning fees even if a shipment is not scanned, discourage companies who would otherwise be interested in producing exports

High scanning fees also increase the cost of exports and imports and potentially inhibit trade. In 2006, Mozambique authorized the introduction of non-intrusive customs inspections using modern scanning technology, and awarded the concession of these operations to a private-sector operator, a Mozambican company named Kudumba. Kudumba is authorized to recover the cost of the scanning operations by charging a fee that is paid by the users. Shippers benefit from scanning in that it reduces the amount of time needed for manual inspections. However, in Mozambique the fee is charged on all cargo, whether or not it is actually scanned. Additionally, the fees are extremely high by international standards (Nathan Associates 2014), especially when compared to South Africa, whose ports do not impose scanning fees.

These heavy scanning costs can lower traffic in ports by shifting transit cargos away from Mozambique. Shipments originating or ending in Mozambique will have no way to avoid the high fee except through bribes to inspectors, and this cost will presumably be passed on to buyers, increasing the price of the imported inputs. In this regard, scanning fees in Mozambique likely have a large negative effect on the development of ports, the expansion of transit trade, and investment along major corridors.

Customs institutions must be strengthened to address the issues faced on agricultural trade

Mozambican Customs officials estimate that only 20 percent of imported goods are properly declared

Table 4: Cost to export and import for Sub-Saharan countries

COUNTRY	COST TO EXPORT (USD PER CONTAINER)	RANK (SUB-SAHARAN REGION)	COST TO IMPORT (USD PER CONTAINER)	RANK (SUB-SAHARAN REGION)
Angola	2060	28	2725	30
Botswana	3145	38	3710	35
Kenya	2255	31	2350	29
Madagascar	1195	13	1555	13
Malawi	2200	30	2895	31
Mauritius	675	1	710	3
Mozambique	**1100**	**10**	**1600**	**15**
Rwanda	3245	39	4990	41
South Africa	1830	25	2080	25
Swaziland	1980	27	2245	26
Tanzania	1090	9	1615	17
Zambia	5165	44	7060	44
Zimbabwe	4265	42	6160	42

Note: Cost measures the fees levied on a 20-foot container in U.S. dollars. All the fees associated with completing the procedures to export or import the goods are included. These include costs for documents, administrative fees for customs clearance and technical control, customs broker fees, terminal handling charges and inland transport. The cost measure does not include tariffs or trade taxes. Only official costs are recorded. Source: World Bank, Doing Business project

(USAID 2007). This may be due to lack of authority for customs to enforce requirements for accurate declarations. Under the existing framework and procedures, the worst thing that can happen to an importer who undervalues goods or otherwise provides false information is the imposition of duties owed on the correct value, quantity, or country of origin of the merchandise. There are no further fines or fees for undervaluing goods or misrepresenting quantities. Accordingly, many importers undervalue goods or misrepresent quantities because they have nothing to lose.

Additionally, lack of harmonization of customs procedures with neighboring countries and lack of coordination among inspections at border crossings is associated with a broader issue: lack of integration of the information flows regarding transport. The information flows could be used to effectively improve tax collection, especially when combined with a risk management system that would enable Customs to identify potentially fraudulent shipments in advance of arrival of the merchandise, enabling customs to take action without needlessly slowing down other imports or exports.

POLICY RECOMMENDATIONS

Taking into account that improving the quality of infrastructure is a major challenge for Mozambique, the government should concentrate on easily-implementable changes that affect international trade flows.

Remove the restrictions on re-export of fertilizers: Due to economies of scale, the government should encourage transshipment/re-export of fertilizer as consumers would benefit from larger import volumes flowing for neighboring countries, principally through Beira port. The economies of scale would lower procurement costs and speed delivery for dealers, thus allowing farmers to have access to cheaper fertilizers. Furthermore, revoking restrictions on re-exports could be combined with the construction of a warehouse near Beira stock fertilizers in bulk, facilitating market access regionally (Malawi, Zambia and Zimbabwe) (IFDC 2007

Decrease scanning fees: As scanning fees are subject to review by Customs and approval by the Ministry of Finance, these authorities could demand information regarding the costs that purportedly justify the fees, in way to publically provide information to users.[16] Further, in contrast to the international standard of Customs paying for operating scanners (making the cargo owner responsible only for paying for the transport to and from the scanning area), all import, export and transit cargo through the port of Maputo is subject to the scanning charge, *whether it is actually scanned or not*. The authorities could enforce the private operator of this concession to follow the international standard by charging only cargo that was indeed scanned.

Develop and implement risk-management tools: There is enormous room for improvement in collection efficiency through modern risk management, which will simultaneously reduce the compliance burden and facilitate tax transactions for most taxpayers (Nathan Associates 2009). By using automated systems to distinguish cases with high versus low revenue risk, Customs could then focus resources in cases where the potential revenue gains are highest. Indeed, this

16 The actual charges are extremely high by all benchmark standards, even taking into consideration that the cost per shipment must be higher in a low-volume port like Maputo than in a high-volume port like Durban or Long Beach.

risk management strategy should be adopted not only by Customs, but actually by all actors involved in the tax system, as the ones dealing with VAT refunds. Data on the number of VAT taxpayers and percentage of revenue generated are unavailable, but it is highly unlikely that Mozambique is different from most countries: at least 80% of VAT revenues are generated by a small number of firms. The limited resources of tax administration should be concentrated on those firms, and on the firms that routinely export and import, regardless of their size.

Develop Legal framework under which Customs operates: Provide Customs the authority (and the associated punitive powers) to require accurate information on value and quantity, description of goods and other important information such as country of origin, also providing the Customs administration with the power to levy significant fines for the first instance of an improper declaration and criminal sanctions for subsequent non-compliance.

3. Financing

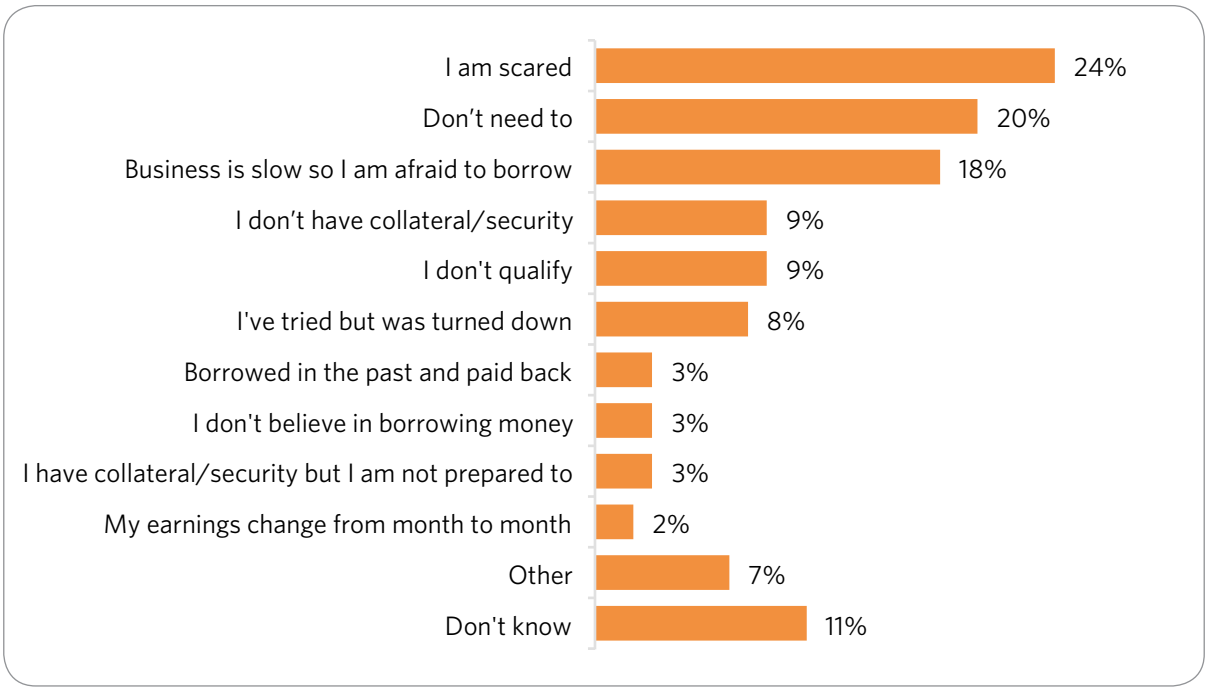
Use of financial tools among Mozambican farmers is extremely limited, and almost nonexistent among small producers

Although the financial sector in Mozambique has expanded rapidly both in assets and geographical coverage, financial inclusion remains a major challenge. Approximately 90% of Mozambicans do not have a bank account with a formal financial institution, and only an estimated 3% of the population is taking loans (African Economic Outlook 2015). A 2012 survey found that only 25% of small and medium enterprise (SME) owners in the country use any financial services (neither formal nor informal) to manage their business finances.[17] The graphic below shows that over a quarter of the reasons for these SME owners not borrowing money can be characterized as a lack of trust. Lack of collateral and of a well-developed business plan are also relevant for explaining the financial exclusion of small entrepreneurs.

Looking at the agricultural sector, data from the 2010 Agricultural Census show that only 2.3% of small farms accessed credit, while medium and large farms report 7.0% and 15.2% respectively. Across the board, these rates are very low. Restricted access to finance is driven by two main structural features of the Mozambican agricultural sector: the specific risks of the sector, and the fact it is mainly composed of small producers. Data from the 2010 Agricultural Census, show that 99.3% of the 3.8 million farming enterprises in Mozambique are small scale, with less than 0.1% occupying more than 10 hectares.

The financial system plays a central role in the development of the agricultural sector. Access to finance is critical to promote the adoption of productivity-increasing technologies.[18] For small farmers, credit can be important as a source of both working and investment capital. Without access to

Figure 2: Reasons for not borrowing (small and medium enterprises)



Source: FinScope MSME Survey Mozambique 2012

17 Financial inclusion is especially low regarding formal financial institutions, with just 9% of SME owners being banked, and the informal mechanisms, such as saving groups, does not compensate it, covering less than 20% of SME owners.

18 Availability of external credit is positively associated with productivity. For example, experiences in Kenya, Uganda and Malawi with agro-dealer development programs show that there is a positive correlation between access to credit and the volume of inputs supplied in rural areas (Rockefeller Foundation 2004).

loans, farmers are unable to take advantage of climate-smart improvements such as better seeds or even simple technologies such as fertilizers. On the other hand, large producers that might be part of a structured value chain (such as tobacco and cotton) and therefore have access to credit from suppliers of inputs or from the buyer (as in a outgrower schemes, discussed in detail in section 5.4), find it difficult to finance more expensive technologies such as irrigation systems and machinery due to high interest rates and short payback periods[19].

Financial instruments to mitigate risk also have strong potential benefit but are rarely used. Long productive cycles combined with price and weather risks mean access to risk management is crucial to maintaining reliable food supplies and protecting incomes in bad years. For this reason, insurance that mitigates the elements of risk in a loan agreement can help expand access to credit and reduce the cost of borrowing. Moreover, new insurance products covering risks inherent to agriculture, such as droughts and floods or declines in the prices of agricultural commodities, can protect farmers' income and avoid a rupture in agricultural investments. Currently, several pilot studies are assessing the effectiveness of drought insurance coupled with improved seeds for increasing yields and reducing the impact of weather shocks in Mozambique. Lessons from these studies will help in designing risk reduction instruments for the population in general.[20]

Currently, the insurance industry in Mozambique is very small, with nine operating companies. It still needs to develop to reduce the cost of coverage and provide innovative new services for the agricultural sector. Only 1% of small and medium enterprises across all sectors are insured. Considering that 22% of these are engaged in agricultural activities and that less than 10% of the rural population know what insurance means (Finmark Trust 2012), it is clear that increasing demand for insurance will be challenging. The government has already passed legislation enabling the provision of crop insurance,[21], however, increasing financial literacy will be key to expanding insurance as a tool for agricultural development.

19 Usually one-year payback for inputs directly related to a production cycle, and maximum 5 years for finance of preparation and improvement of the land and machinery, with annual interest rates over 20%.

20 These studies are currently being supported by USAID's BASIS program. Results should be available within the next several years.

21 Decree 1/2010

3.1 Drivers of restricted access to financial tools

We can highlight four main drivers of low credit use in Mozambique: low levels of financial literacy, lack of collateral, high interest rates, poor banking networks in rural areas, and lack of comfort among farmers with using credit to invest.

I. LACK OF COLLATERAL MEANS BANKS ARE RELUCTANT TO ISSUE LOANS

Collateral is important for banks because they want to know that a borrower has sufficient assets to cover any unpaid loan repayments plus overdue interest should the loan go bad. Collateral also function as a screening instrument by providing indirect information about the borrower applying for a loan. In Mozambique, the Land Law provides land users with a document (*Direito do Uso e Aproveitamento da Terra*, DUAT) that shows their right to use the land that is owned by the government. This means land cannot be bought or sold, preventing it being used as collateral. The scenario gets more complicated as most Mozambican farmers have a low-income level and cultivate less than five hectares, with no assets to use as collateral.[22]

The recently established Warehouse Receipt System could provide an alternative to the use of land as collateral.[23] This system allows loans to be secured on farmers' production and is being implemented by *Bolsa de Mercadorias de Moçambique (BMM)*—a public institution created in 2013. Through this system, farmers store their commodities in a warehouse and receive a document that provides proof of ownership and specifies the quantity and quality of the products. The receipt can then be used as collateral to get a loan with banks for up to 70% of the commodities' value. The auction system is not operating yet, as BMM is preparing and expanding its storage facilities.[24] In addition to facilitating rural producers' access to commercial banks' credit, this system can also

22 Although important, the effects of Land Law on restriction of access to credit should not be overemphasized. In Mozambique, weak law enforcement means banks do not view collateral as a central consideration. They prefer to avoid foreclosure because of the length of time needed for contract enforcement to recover their funds. In some cases, this can result in the total amount due becoming bigger than the original value of the loan. In addition, the value of a DUAT of a small farm in a remote location might not justify the cost for taking possession of it as land availability is not a problem in Mozambique.

23 Regulated through the Decreto n° 100/31 of December 2014

24 Currently located in Malema (Nampula); Alto Molócue (Zambézia); Lichinga, Majua (Niassa); Gorongosa, Nhamatanda (Sofala); and Ulónguè (Tete).

increase international trade flow as it provides trade insurance companies with an instrument to safeguard their exports and imports—increasing participation in the financing of agricultural commodities through warehouse bond insurance.

II. INTEREST RATES ARE HIGH

A third constraint on access to bank financing is the high interest rates. Even when loans are available, they are expensive, limiting their appeal only for smallholder farmers but also inputs providers and agro-dealers. The average one-year lending rate from commercial banks is 21%. This compares to a prime rate applied to large corporations of 15% (African Economics Outlook 2015). This can be explained by the relatively higher risk in agricultural operations and collateral constraints, which makes commercial banks have a risk-averse attitude toward agribusiness (see Appendix for an explanation of why Mozambican rates are high). Facing high interest rates, we can expect investors decide not to make loans. Data from 150 manufacturing enterprises indicates this is a considerable barrier in Mozambique. Although most respondents identified access to credit as a serious constraint to development of their business, 93% of the firms without a bank loan had not applied for one (Ministry of Planning and Development 2006).

III. BANK BRANCHES ARE SCARCE IN RURAL AREAS

The geographical distribution of banking branches is another important concern in financing the agricultural sector. Although the rural population makes up 68% of the total Mozambican population, only 24% of commercial banks' branches are in rural districts (Bank of Mozambique, 2012). The four provinces in the south (Maputo Provincia, Maputo Cidade, Gaza, and Inhambane) have a disproportional number of rural bank branches, while the provinces with the largest rural populations (Nampula and Zambézia) have fewer branches than the less populated southern provinces. The small number of branches combined with low population density in rural areas makes accessing finance services difficult for farmers. Almost one-third of rural producers live over three hours' travel time from formal financial services (Finmark Trust 2014).[25]

Table 5 - Time required to access financial institutions in rural areas

TIME	2009	2014
Less than 30 minutes	14%	17%
31 minutes to 1 hour	21%	14%
1 to 2 hours	19%	27%
2 to 2 hours	12%	13%
More than 3 hours	34%	29%

Source: FinScope 2014

IV. FINANCIAL LITERACY IS LOW AND RURAL POPULATION ARE SKEPTICAL ABOUT BANKS' USEFULNESS

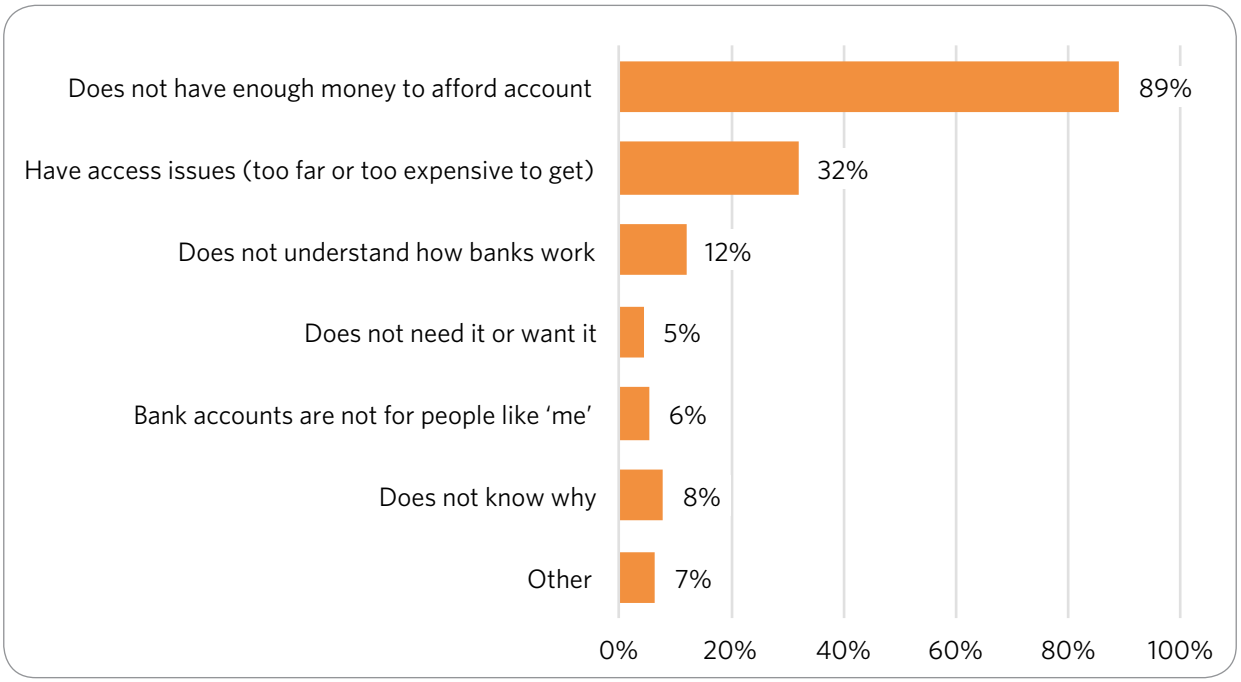
The low income levels of Mozambique's population especially in rural areas creates the final serious constraint. Data from a survey in 2009 (FinScope 2009) shows that although accessing bank branches is an important constraint, 90% of rural farmers identify lack of money as a reason for not having a bank account. In addition, certain attitudes of the rural population may also contribute to the financial exclusion. For example, over 80% of people interviewed in this survey said they avoid borrowing money if they can; 70% preferred to be paid in cash and 60% reported they could easily live without a bank account. All these aspects combined, lead rural people to borrow less from banks than they save, relying instead on friends and family for capital. This situation of low banking penetration in rural areas can be correlated with low level of financial literacy. In 2014, fewer than 50% of the rural population knew what a bank was, while 21% had heard the word but did not knowing what it meant (Finmark Trust 2012). As rural producers are not used to banks' specific services and can not completely fulfil banks' expectation on records and business plans, evaluating the risk associated with an individual farmer is difficult, which increases banks risk-averse attitudes toward rural producers.

3.2 Institutional framework

Legal frameworks reduce the cost of borrowing by giving more certainty to borrowers that they will receive repayments for risky loans. Legal frameworks reduce the cost of borrowing by giving more certainty to borrowers that they will receive repayments for risky loans. Overall, the financial sector regulatory and supervisory environment in Mozambique continues to improve. The Central Bank has passed a number of regulations to strengthen oversight and risk management by banks and to protect against

25 Data from FinScope Mozambique 2014, in which a representational cross-section of 3,928 households have been interviewed comprehensively about their financial behavior, familiarity with financial terminology and their use of financial services.

Figure 3: Reasons for not having a bank account in rural areas among farmers



Source: Finmark Trust 2012 - Status of Agricultural and Rural Finance

systemic shocks. The creation of a private credit bureaus regulation in July 2015 provides an example of the government's efforts to promote regulations to create a business environment more conducive to private investment. The law creates instruments that will help financial institutions to access information about clients' credit records. Before the law, credit reporting was only done by a credit registry operated by the Central Bank that imposed many limitations on information disclosure.

Private credit bureaus have proved effective at expanding access to finance in other countries by enabling small businesses and other actors with restricted access to finance to build a credit record that can be used by financial institutions to assess risk (SPEED 2015). In a banking environment with a lack of collateral, better information about borrowers' financial histories can expand access to credit by driving down the costs related to assessing risk and differentiating good borrowers from bad ones.

Another important bill passed is the Insolvency Law in March 2013, which makes resolving insolvency easier by introducing a court-supervised reorganization procedure and a mechanism for prepackaged reorganizations. It does this by clarifying rules on the appointment and qualifications of insolvency administrators and by strengthening creditors' rights. Largely as a result of this reform, Mozambique moved up 46 points in the 2015 Doing Business Report Resolving Insolvency Indicator from 153 to 107. There is also legislation regarding the creation of a movable collateral registry. To complement these efforts, the creation of regional small claims courts could reduce the risk involved in extending credit to small businesses by providing fast, convenient, and reliable adjudication of small debts.

3.3 Sources of credit

According to the 2010 Agricultural Census, most of the farmers who accessed credit (only 2.4% out of 3.8 million farms) did so through trading finance schemes, especially through input suppliers, with over 32,000 farms benefiting from this scheme. The second source was the government, with 15.9%, followed by credit cooperatives (8.4%) and social networks, mainly friends and family, with 5.2%. Commercial banks provided only 3.7% of the total credit reported.

Table 6 - Sources of credit for farms of all sizes accessing credit

SOURCE OF CREDIT	NUMBER OF FARMS	% OF TOTAL FARMS ACCESSING CREDIT
Input suppliers	36,480	41,5%
Other sources	17,731	20,2%
Government	14,024	15,9%
Credit cooperatives	7,397	8,4%
Friends and family	4,538	5,2%
Commercial banks	3,277	3,7%
Self-help groups	2,782	3,2%
Agricultural development banks	1,745	2,0%

Source: INE 2010 Agricultural Census. Elaborated by Finmark Trust 2012.

3.3.1 COMMERCIAL BANKS

Commercial banks still represent a small share of agriculture financing, providing only 3.7% of total credit to farmers

The low share of farmers being financed by commercial banks can be explained by several factors, largely related to the physical banking network typical of commercial banks.

First, banks have high operating costs, meaning each branch needs to have a large volume of transactions relative to its costs for it to be profitable. In rural areas, most transactions are likely to be small due to low-income level and population density is low, making it difficult for banks to be profitable.

Second, poor infrastructure in rural areas such as limited telephone connectivity and poor access to electricity imposes huge challenges in connecting rural branches' activities to the main system of the banks located in Maputo.

Third, maintaining a branch in rural areas usually requires reassigning qualified staff based in urban areas. Human capital still represents a huge challenge for Mozambique in all sectors and finding staff in rural areas with the required experience and qualifications is difficult. This implies paying big premium for educated professionals to work in rural areas, further increasing the costs of maintaining branches in rural areas.

Despite these factors, commercial banks have provided some lines of credit for agriculture:

- **Revolving Fund**: from 2008 to 2012, Millennium BIM (Banco de Investimentos de Moçambique) and BCI (Banco Commercial de Investimentos) provided over MZN 60 million (approx. USD 2 million) in lines of credit from revolving funds to almost 200 cereal and horticulture producers in the Maputo Province, Gaza , and Inhambane.
- **Poultry:** from 2010 to 2012, BCI offered a total of MZN 30 million (approx. USD 1 million) in lines of credit to 37 poultry producers operating in Maputo City and Province.
- **Horticulture**: from 2011 to 2012, Millennium BIM offered lines of credit to 19 horticulture producers in Maputo Province and Gaza, amounting to MZN 28 million (approx. USD 930 thousand).
- **Standard Bank/AGRA**: from 2010 to 2012, Standard Bank managed MZN 25 million in horticulture lines of credit in Nampula and Sofala, financing 2,400 small producers of maize, ginger, beans and pineapples.

3.3.2 TRADING FINANCE SCHEMES

Trading finance schemes provide the greatest share of finance to Mozambican farmers (41.5% of the total in 2010)

In a trading finance scheme, input suppliers and buyers provide technology for rural producers on credit. The cost is deducted from sales at the end of the season and does not need to be repaid if the crop fails. This provides security for producers and can boost investment in agricultural production. Input suppliers are able to provide this credit at a lower cost than banks because they have more information being able to directly observe the capacity and dependability of rural producers through repeated transactions over an extended period of time. Moreover, a strong business relationship is an incentive in itself for repayment, as suppliers can expect farmers to repeat business if inputs lead to an increase in production.

Trade financing is already a common practice in several agribusiness sectors in Mozambique, notably cotton, tobacco, and sugar. It addresses the lack of collateral

by incorporating future production of commodities as collateral for the credit provided. Cotton and tobacco production are mainly financed by outgrower schemes, in which agro-processing firms provide smallholder farmers with inputs like fertilizer and seeds at the beginning of the planting season agreeing on the price that the company will pay for the harvest at the end of the season.[26] The outgrower system provides an efficient mechanism for the provision of credit to small holders, as the buyer is interested in ensuring that farmers utilize inputs appropriately in order to secure the greatest volume possible of high quality output. Having a direct interest on output, these investors often offer extension services with technical assistance on all stages of production.

3.3.3 GOVERNMENT FUNDS

Government funds are an important component of rural credit, accounting for over 15% of total credit supplied in 2010

As well as being the key actor in promoting business frameworks that enhance the environment for investments, the government is also an important source of agriculture financing. As seen in Table 6 above, government funds are an important component of rural credit, accounting for over 15% of credit supplied. One of the main government funds is the District Development Fund (Fundo de Desenvolvimento Distrital, FDD).[27] It makes funds available to district governments for making loans to individuals and associations for entrepreneurial projects with the objective to create jobs and increase food security. Initially, the idea was that the FDD should be a revolving fund: as the money was repaid, it would be lent out again to new beneficiaries. However, it has turned instead into a drain on the budget as the repayment rates have been extremely low.[28] Some factors explain the low repayment rate: lack of understanding by borrowers that the funds were loans and not grants, poor project management, the diversion of funds and corruption.

Despite this , the scheme has continued and the amounts going to the districts have increased, and now vary in line with factors such as the districts' size and population. The fund's future ability to successfully provide financial services throughout the country will hinge on improvements in management, communication, project selection and activity monitoring.

In addition to FDD, the government manages two other funds that should be highlighted. The Agrarian Development Fund (Fundo de Desenvolvimento Agrário, FDA) provides finance to projects for a maximum period of five years to purchase agricultural machinery, particularly mechanized water pumps, tractors and other machinery needed for agro-processing and agro-livestock activities. Though not a significant part of the fund's activities, it offers credit for agricultural input distribution, processing infrastructure and product commercialization. The Rural Development National Fund (FNDS) approved in March 2016 is responsible for financing the projects inserted in the Incentives Package for Rural Economy (Pacote de Estímulo à Economia Rural, PEER). This package aims to stimulate private investment in strategic sectors for development, such as energy, water, roads, technology transfer. In a five-year plan, the funds will be provided by the government in partnership with commercial banks. The average interest rate will be set between 5% to 9% (MITADER 2016).[29] Moreover, Programa Estrela points that FNDS will contemplate credit to smallholders, in a total value of USD 375 million.

3.3.4 MICROFINANCE ORGANIZATIONS

Many microfinance organizations exist, but they do not generally self-sustain

26 The largest company in the tobacco industry is Mozambique Leaf Tobacco (MLT), buying from over 120,000 smallholder farmers in Tete, Niassa, and Zambézia. MLT provides fertilizers, chemicals, and seed on credit that is repaid by the farmers with their harvest. Regarding cotton, the Mozambique Cotton Institute estimates that in 2014 over 230,000 smallholder families produced cotton and most of them are working in an outgrower scheme.

27 Still commonly known as "the seven million" because it allocated MZN 7 million from the central budget to each of the 128 districts when it was created in 2006.

28 The repayment rate for the funds distributed from 2007-2011 was just 5.3%.

29 In addition to providing subsided credit, Programa Estrela can also provide tax incentives such as exemption from income tax (in the first ten years), imports duties and VAT.

The microfinance sector in Mozambique is composed of 10 microfinance banks, 8 credit cooperatives, 285 microcredit operators and 12 Accumulating Savings and Credit Associations (ASCAs). The sector has been stagnant, with a total number of clients remaining below 200,000 (Mozambique's population is over 25 million) and a declining total portfolio (World Bank 2015). Like the Mozambican commercial banking sector, the microfinance sector is also highly concentrated, with five microfinance banks holding over 80% of the loan portfolio and 60% of the borrowers. Inside the microfinance sector, ASCAs have become an important provider of credit to low-income households in rural areas over the last 10 years. A study in 2011 estimated that these operators support over 100,000 members of around 5,300 groups in 89 of the country's 140 districts (FARE 2011).

ASCAs are mainly assisted by international organizations, such as the International Fund for Agricultural Development (IFAD), African Development Bank, FAO and World Bank, and by international NGO's like CARE, HIVOS, and Oxfam NOVIB. Additionally, ASCAs receive support from local and national level government entities like the National Directorate for Promotion of Rural Development (DNPDR) and National Institute for the Development of Small Scale Fisheries (IDPPE). They have been successful in organizing informal credit and savings groups, mostly in the north and central regions of the country, bringing financial services to a significant number of rural producers. Although successful in some aspects, the dependence on external sources of finance limits this model's potential to expand without additional outside support. There are also problems related to short credit cycles, lack of professional management capacity and the informality of its organization.

POLICY RECOMMENDATIONS

Increase financial literacy by coordinating public education efforts and setting up a mentorship program for local entrepreneurs: One of the most important interventions for improving the creditworthiness of local businesses is improving the level of financial literacy, especially in a country with low levels of education such as Mozambique (Cole et al. 2011). Building skills in accounting, finance, management, marketing, and entrepreneurship is necessary to expand knowledge on the effective use of the financial sector and prevent problems such as over-indebtedness. There is empirical evidence that providing small borrowers with simple lessons in business management can improve their income and repayment rates (Karlan and Valdivia 2007). However, improving the current extremely low levels of financial literacy in rural areas of Mozambique is a huge challenge. The FinScope 2009 study reports that less than 10% of the rural population knew the meaning of terms like savings account, money lenders, interest on loans, insurance, and debit card. Indeed, not even half of them knew what a bank was, with 21% having heard of it but not knowing what it meant.

As a first step, the government should implement a coordination mechanism for financial literacy, which could be lead by the Steering Committee for the Financial Sector Development Strategy.[30] The aim of this coordination scheme would be to avoid duplication of efforts in implementing education programs. There are already some government initiatives going on, such as the Central Bank's financial education program; the National Savings Campaign implemented by the National Directorate for the Promotion of Rural Development; the introduction of basic financial concepts in school curriculum by the Ministry of Education; and the material developed by the National Directorate for Literacy and Adult Education containing business management and financial literacy. Coordinating these initiatives into a coherent program and integrating them into a long-term strategy will make individual efforts more effective.

A mentorship program focused on assisting local entrepreneurs to improve their financial management skills and to prepare credit applications could complement the above measures (Nathan Associates, 2007). In partnership with business organizations, the government could develop a network of businesspeople, bankers, and finance specialists, and link them with small businesses interested in obtaining credit. The applicant would be matched with a mentor who assesses the viability of the business and the loan proposal and informs the entrepreneur about problems that need fixing for the entrepreneur to qualify for a loan. If the project has potential, the mentor may help the entrepreneur to prepare a bankable proposal, with a budget, cash flow, and marketing plan. To make it sustainable, the mentor could receive a small share of any profit from the project, incentivizing them to focus effort on projects with higher chances of success.

Increase the number of cooperatives: Aggregating small farmers into groups using associations can remove some of the barriers to accessing finance, such as their low levels of income and lack of assets to use

30 As suggested by the World Bank (World Bank, 2012).

as collateral making it easier to get credit either directly or through intermediaries within agricultural value chains (e.g. trading schemes). The key challenge in Mozambique, however, is to change the current vision and definition of cooperatives from a political to a more business-oriented one.

Explore the option of joining the African Trade Insurance network to expand trade credit insurance: Trade credit insurance is an important potential tool for expanding access to credit for rural producers willing to export. The government could explore the option of joining the African Trade Insurance (ATI) network, a well-functioning multilateral export credit agency that already operates in bordering South Africa, Malawi, Tanzania, and Zambia. As well as trade credit insurance, they also provide insurance for political and commercial risk, project loan cover, and insurance for foreign direct investment, all interesting instruments for investors interested in a country with weak institutions[31].

Incentivize financial service providers to expand into rural areas: Even though 34% of rural producers can access financial services within one hour, at least 20% of them are excluded from these services, perhaps due to limited financial literacy. While the government might not be best suited to directly providing financial services, it can incentivize financial service providers to expand into rural areas through tax breaks for establishing new branches and branchless infrastructure. The government should also consider any undesirable side effects of related policies. For example, the elimination of fees on deposits approved in 2009 made operations in rural areas even more costly and led some banks to close some branches in areas they considered least profitable.

Set up a new monitoring scheme for FDD: Reported issues in FDD management are many: funds allocated to projects with no contractual document, lack of signatures and stamps in contracts, funding allocated to civil servants' projects (including some responsible for managing the fund), misuse of the money to cover operating expenditure of District Secretariats, and a lack of credit repayment plans. If central government does not have the institutional capacity to review all districts' expenses, it could use a random approach, using a lottery scheme to select the districts that would have all the FDD's accounting verified. Then, the punishment for misuse of the funds could be done by excluding the district from the next year transfer of funds. On the other hand, the government should award the districts with best practices and more profitable projects. Taking into account district staff's lack of specific technical knowledge on risk assessment of the, the process of project selection should be headed by the commercial bank responsible for managing the funds.

Design legal instruments to enable immediate withdrawal of e-money by customers in order to increase trust in and demand for these services. The innovative instruments and services provided by mobile banking systems are a good way to increase financial access in rural areas with low population density and poor electricity provision. E-money issuers have been operating in Mozambique since 2011 and, although the legal and regulatory framework does not pose obstacles for e-money issuing, the government needs to set clear rules for safeguarding clients' funds. In this regard, the government should design legal instruments that will ensure the availability of the funds for immediate withdrawal by customers to increase trust in e-money and increase demand for these services in rural areas.

3.4 Public Private Partnerships

Although Mozambique lacks the comprehensive credit subsidy programs for agriculture seen in many countries, the government does have a history of using Public Private Partnerships (PPPs) to financially support the agricultural sector. Broadly speaking, by making the government an interested party, PPPs benefit investors by speeding up administrative processes, including most importantly access to land. In return, the government takes eventual ownership of the project in some cases. To date, there have been a number of agricultural PPPs in Mozambique, and their structures have varied considerably. This section briefly discusses three of these models as a context for the types of structures that could be used going forward.

Recent government initiatives for agriculture including the Beira Agricultural Growth Corridor, the Limpopo River Basin Authority, and the Zambezi River Basin Development Agency have all leaned heavily on PPPs as part of their plans, suggesting that the government views them as a preferred means supporting agricultural investment. However, PPPs are administratively complicated to initiate, and

31 ATI has already expressed interest in entering the Mozambique market (SPEED 2015). However, the government did not comply yet with the minimum capital contribution. Moreover, by paying the USD 25 million membership subscription fee, Mozambique can access concessional financing from the African Development Bank and the World Bank, who both sit on ATI's board of directors and who provide technical and financial support. In this regard, efforts have been made by the USAID Southern Africa Trade Hub and the SPEED project to have Mozambique as an ATI member country.

non-PPP entities will likely struggle to compete with PPP businesses as they will not benefit from the streamlining of regulatory processes enjoyed by PPPs. This essentially creates a barrier to entry that could impede healthy competition and lead to monopolistic and/or monopsonistic behavior if PPPs are not carefully regulated. Finally, such barriers to entry create the possibility that the benefits of projects will be retained by the government and close supporters, significantly undermining their benefits for the rest of Mozambique.

In general, government involvement in PPPs is not large in agricultural projects, as their role tends to be of guarantor. That is, the government backs loans to the PPP. For this reason, these projects have little impact on the government budget except in the case of failure. In 2014, EMATUM, a state-owned tuna fishing company that had issued bonds backed by the Mozambican government reported large losses and a likely default, leading to a drop in the company's sovereign credit rating to B to a B- and increasing the cost to the government of repaying the debt. As a result, the Mozambican government has been unable to obtain new loans, and investment in the country has been substantially curtailed.

The following section describes the legal framework for PPPs and describes three different approaches the government has employed to make use of them.

3.4.1 THE PUBLIC PRIVATE PARTNERSHIP LAW

Mozambican law designates three types of Public-Private Partnerships:[32]

- "Small scale"[33] PPPs are for projects with an investment value of no more than 5 million MZN (as of September 2016 about USD 66,000).
- "Large scale" PPs are for projects with a value greater than 12.5 billion MZN are designated as "."[34]
- "Natural resource projects" are categorized as Business Concessions and are subject to different rules than other PPPs.

In general, PPP's must be contracted by a public tender, with direct awards allowed only "in weight situations and once duly justified, and as a last resort measure." Further, any assets that are part of a PPP are explicitly prohibited from being used as collateral. The government is explicitly required to mitigate political and legislative risks to PPP projects and is supposed to ensure that the projects be designed such that any the regulators of PPP projects not also be invested in them. Further, the government may (and often does) act as a financial guarantor to the project, which is particularly important due to the collateral prohibition mentioned above. This is specifically recommended when the project is of "special social-economic interest for the Country" and is not financially feasible by itself.

The length of a PPP (prior to the transfer of an asset's ownership back to the state) is also specifically stipulated by program type. Greenfield projects are capped at 30 years, rehabilitation and expansion projects at 20 years, and management contracts at 10 years. However, the government can extend this time limit if additional investment is required or to mitigate the impact of policy changes that negatively impact the PPP. At the conclusion of the time period, a new public tender is issued, and the existing holder benefits from a 5% margin in consideration for the new contract. Projects designated as "small" have shorter time limits for each category, with a maximum of 15 years for greenfield projects, 10 years for rehabilitation projects, and 6 for management contracts.

3.4.2 PPP MODEL 1: SUGAR - MOZAMBIQUE'S FIRST AGRICULTURAL PPP

Sugar, which is today Mozambique's highest grossing cash crop, was an early and important example of an agricultural PPP in Mozambique. The law described above was not in effect during the sugar sector's rehabilitation, and the government's role was in some ways quite different than it is in more recent PPP's. However, as it was one of the country's first PPP experiences, and at least in terms of increasing productivity and generating revenue was a success, we describe it here as important context.

When Mozambique gained independence from Portugal in 1975, six sugar estates were in operation in Mozambique, with a total production capacity of 360,000 tons. The sugar sector was the third largest export sector and included the largest private firm in Mozambique. After independence, some sugar companies were fully nationalized and the state intervened in the running of others. Years of war and capital flight led the state to become the de facto owner of all six sugar estates by the mid-1990s. In 1996, a national sugar strategy was approved to bring in foreign investors to take over and rehabilitate operation of four of the six sugar estates.

32 See Law No. 15/2011 for the basic definitions applied to various types of PPP.
33 See Decree No. 69/2013
34 See Decree No. 16/2012

The Mozambican government retains ownership stakes in three of the four sugar estates, though they have shrunk to between 12 and 25 percent. Production has risen dramatically in recent years, with an estimated 389,425 megatons produced in 2011/2012. Fifty thousand additional hectares were farmed in 2012/2013 and production is expected to have increased to 470,000 megatons (Esterhuizen & Zacarias, 2011).

More recent agricultural PPPs have followed sugar's example in several key respects. First, the government has often first identified land on what used to be state farms as the most promising to turn over to PPPs. The government can more easily make historic claims to the land in these cases, and it may be the case that these lands are less densely occupied by subsistence farmers.

3.4.3 PPP MODEL 2: LIMPOPO RIVER BASIN IRRIGATION AND THE WANBAO RICE PROJECT

The Baixo Limpopo Irrigation project, located in the Xai Xai district, is the largest of the Climate Investment Fund's (CIF) projects in Mozambique. The project is regulated by the Regadio Baixo Limpopo (RBL), which is a PPP. This region stands to benefit substantially from irrigation development: it is prone to frequent droughts and floods, both of which could be better managed with irrigation infrastructure. Further, easy access to the Maputo market means the potential to sell agricultural products produced here is significant, despite the fact that agricultural conditions are worse than in some regions further north.

The Regadio Baixo Limpopo is a PPP created to manage irrigation development in the Lower Limpopo River Basin.[35] RBL earns revenues on the basis of services delivered in a similar way to an electricity utility. To connect farmers to markets, the RBL is contracting private "Market Service Providers" (MSP's), whose job is to link farmers with markets. These MSP's will vary in form, but are compensated on the basis of the number of farmers contracted, the amount of production they obtain, and the prices they are able to sell for. An MSP could simply be a trader who provides inputs and agrees to sell outputs, or it could be a processing company that hires contract farmers and buys products directly from them. Since MSP's are compensated on the basis of the number of farmers they enlist, a competition is envisioned among MSP's to bring the greatest value to existing farmers.

The Wanbao Rice Project is the earliest "prototype" MSP in the region. Like the sugar plantations rehabilitated earlier, the land initially employed was a former state farm, though at least part of its territory had been since occupied by subsistence farmers, which led to controversy. This project predates the CIF investment, but in general is consistent with the idea being presented.

Thhe project's impact on local populations has been controversial, and lessons have been learned about how to implement projects appropriately. Particularly in the early days of the project, relations between managers and Mozambican workers were reportedly poor, and land was seized from smallholders with insufficient notice. At the same time, rice is now being produced at significantly increased productivity levels and sold to the Maputo market.

The rice produced at Wanbao is not destined for export, as rice is an important staple in Mozambique's urban areas, including nearby Maputo, and domestic production falls far short of consumption. This means that the project does not face any of the delays or financial costs associated with export discussed in the tax section of this paper. These barriers, the physical conditions of the area, and the project's proximity to the Maputo market make it likely that other MSPs will focus on products for domestic consumption, at least for the time being. This is a major advantage of the PPP structure.

A number of commentators have criticized the Wanbao Rice Project for not bringing sufficient benefits to local communities.[36] The project's initial phase took place in an area that had previously been a state-owned farm, but the subsequent phase displaced a number of local farmers, reportedly without appropriate consultation. Some therefore see the project as a government-led land grab. This experience and the similar story of the ProSavana initiative make clear the importance of careful, well-documented community consultations as a part of private as well as public-private projects.

3.4.4 PPP MODEL 3: THE ZAMBEZI RIVER BASIN DEVELOPMENT AGENCY

The Zambezi River Basin Development Agency (Agência de Desenvolvimento do Vale do Zambeze or ADVZ) is similar to the Limpopo River Basin Authority

35 The Limpopo River Basin spans Gaza and Inhambane provinces in southern Mozambique. The Limpopo River enters Mozambique north of Massingir and merges with the Rio dos Elefantes upstream from Chokwe before flowing toward Xai-Xai. This river brings significant irrigation potential to an otherwise drought-prone area.

36 See, for example Chichava (2014),

in that it is charged with the development of a river basin but controls a far larger area (nearly 150,000 km^2) and is based on a very different legal structure. While the RBL is itself a PPP which has been granted rights over one particular investor, the Zambezi River Basin Development Agency acts more as a coordinator of PPPs and number of investment and innovation funds.

The ADVZ has engaged in ongoing spatial planning and on that basis is tasked with investing a total of over USD 200 million in innovation and project funds. In partnership with TechnoServ, ADVZ is also currently supporting a program titled FinAgro that seeks to finance businesses that will increase productivity and link farmers to markets. This program finances projects worth up to USD 100,000 and is budgeted USD 3 million. Perhaps most importantly, ADVZ also controls USD165 million specifically allocated to PPP-provided infrastructure. In addition to its role as a financier, the ADVZ is tasked with providing linkages between businesses and farmers, and serving as a center of excellence and knowledge for the region.[37]

RECOMMENDATIONS FOR GOVERNMENT AND INVESTORS

Effective community consultation is crucial to project success: To date, comparative analysis of the successes and failures of Mozambique's agricultural PPPs has been limited, probably due to the fact that most of them are relatively new. The most obvious lesson to be learned thus far is that effective community consultation is crucial to project success. Even with the government insulating investors against legal risks associated with local rejection, poor community engagement reflects poorly on both government and investors and introduces political risk.

37 To this end, USD 20 million in Dutch funds have been allocated to strategic planning, investment facilitation, and capacity building—further analysis is required to assess progress and impact on this front.

4. Infrastructure

Infrastructure is an important aspect of agricultural growth, as it is the key determinant of the cost of accessing input and output markets. Quality roads, good port services, irrigation infrastructure, and expanded access to energy are necessary to link goods to markets, even in the face of unpredictable weather. Irrigation, storage, and energy infrastructure can not only help minimize post-harvest losses related to agriculture's intrisinc risks, but mitigate climate change adverse effects.

Infrastructure is critical to agricultural development. Quality roads link farmers with markets, irrigation infrastructure keeps crops hydrated during droughts, and electricity makes enables cooling high-value fruits and vegetables.

Unfortunately, many Mozambican farmers are based in locations with limited or weather-sensitive infrastructure. Bad roads wash out in the rainy season, cutting farmers off from markets; lack of irrigation means floods and droughts can decimate production absent climate and weather mitigation tools; and energy is generally unavailable—only 20% of Mozambicans are connected to power infrastructure (World Bank 2012). Irrigation infrastructure is even more limited with less than 0.5% of currently used agricultural land being irrigated.

As a result, currently the private sector has to set up their own infrastructure, such as electric lines and roads, imposing a high cost to investment in projects in remote areas of the country. The government's decisions on road, ports, energy, and water infrastructure therefore affect the productivity of existing farmers as well as the views of future potential investors. This analysis focuses on expenditures and investments by government in roads, ports, irrigation, and energy in turn, followed by policy recommendations to improve good infrastructure provision.

4.1 Roads

The quality and availability of roads is the principal determinant of transport costs of inputs and outputs and market access for most Mozambican farmers.

Fertilizer or seed prices paid by farmers in Mozambique are often high compared to neighboring countries in the region, so high in fact that the revenue of incremental production is insufficient to pay for the fertilizer (IFDC 2011; World Bank 2012). High fertilizer prices are related to high transport costs (see section 2.5.1), that are in part a result of poor road quality. As most of the fertilizer products used in the smallholder sector in Mozambique arrive by truck from South Africa, importing fertilizer in small quantities and by road that are often subject to flooding or poor maintenance contributes to high transport costs.

Road infrastructure in Mozambique historically developed in an East-West direction to provide port access to neighboring economies. The Maputo Corridor provides port access to South Africa and Swaziland, while the Beira Corridor provides port access to Zimbabwe. During the civil war, due to their economic importance, these roads were well-protected (even by the Zimbabwean military in Zimbabwe's case). The government is currently working to improve the country's national highway, the N-1, which runs North-South through the country. Further, dramatic infrastructure improvements are taking place along the Nacala Corridor, which traverses some of Mozambique's most fertile agricultural lands, but, due to its location, did not fare as well during the civil war as the other two principal agricultural corridors.

Mozambique's road density is low, meaning that much of the space in the country is not accessible by existing roads. For natural resource preservation, this is a very good thing. However, for farmers and prospective farmers, it is not. That said, rapid progress is being made in improving road access, and this promises to dramatically improve market access for both current and prospective farmers in much of the country. Here the key challenge will be protecting natural capital

stocks, particularly forest resources, as roads also make it easier to exploit forest resources.

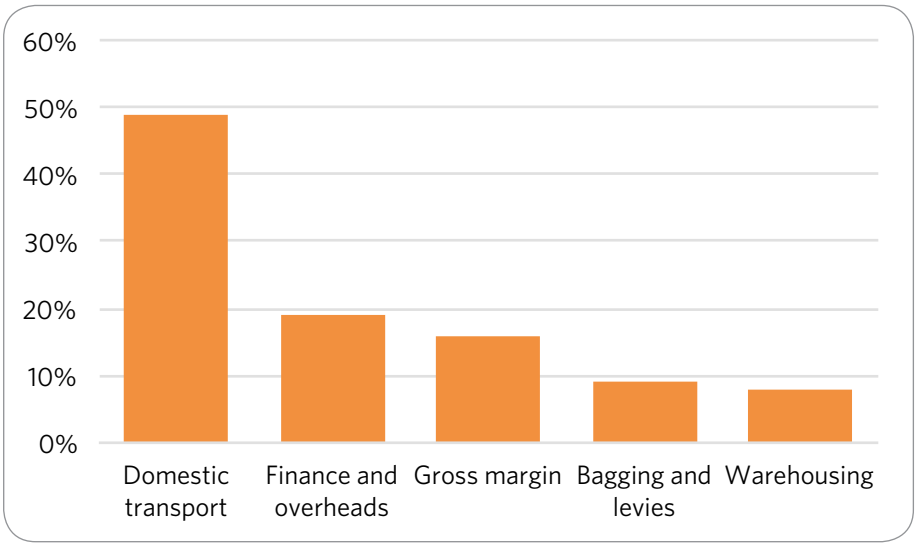
4.2 Ports

By providing an ideal gateway to landlocked neighboring countries like Zimbabwe, Zambia, and Malawi, Mozambique has an advantageous geographic positioning than can be better explored.

Reducing the cost of agricultural inputs (mainly fertilizers and seeds), and improving market access for potential exporters, requires efficient and affordable port services. Mozambique's three main ports - Beira, Maputo, and Nacala—are a natural gateway to the Middle East, Mediterranean, and Asia, presenting an advantageous geographic location regarding its neighboring countries. Further, some South African cities and agricultural production regions are closer to Maputo Port than to Durban.

The Beira port is the most important for fertilizer inputs, as the adjacent corridor is home to most fertilizer buyers. However, restrictions on re-export of fertilizers from Mozambique have impacts on the amount of fertilizer imported, decreasing large-scale imports intended for the regional market and impeding potential benefits from economies of scale. As an illustrative exercise, a study estimated that, among the key domestic costs of moving fertilizer from the Beira port to a farm in Sofala, domestic transport costs account for over 45% of the total costs. Similar study for Zambia and Kenya shows rates of 26% and 33%, respectively. These high domestic costs are explained mainly by high port charges and internal transport (IFDC 2012).

Figure 4: Domestic fertilizer cost



Source: IFDC 2012—Mozambique Fertilizer Assessment

The greatest scope for reducing costs related to ports is through the improvement of port operations in Beira and Nacala, where virtually all fertilizer imported is off-loaded. One of the most needed improvements at the ports is deepening their channels, which currently do not allow for large cargo ships to anchor[38]. Once this problem is solved, larger ships can bring in bigger amounts of fertilizer at lower costs, allowing farmers to have access to cheaper fertilizers. Furthermore, economies of scale in shipping could be obtained through Mozambican importers' coordinating their shipments with those of other importers in the region.

The government is already taking some steps to improve the ports' infrastructure. For example, the Beira Agricultural Growth Corridor, along with some importers and other development partners, is developing infrastructure and finance facilities for crop intensification in the Beira Corridor through Sofala, Manica, and Tete provinces. Moreover, importers are also analyzing the possibility of establishing holding warehouses at the ports.

As port usefulness is also related to how connected they are to other transport means, the ports' long-term growth depends on the success of the development of roads and railways that will connect the ports with far-away producers. The port of Beira is already connected to two railways, the Machipanda Line and the Sena Line, and the Maputo one is connected to a railway coming from South Africa—making Maputo's port 140km closer to Johannesburg than the Durban one. The improvement of the connection between the port and the inland consumption and production centers will expand these

38 This limits cargo vessels to a maximum of 10,000-15,000 mt, which increases the per-unit shipping costs by three to five percent compared with 25,000 metric ton ships (IFDC 2012).

ports capacities by decreasing cost and time of border crossings.

4.3 Energy

Although energy is a critical factor for agriculture, energy expansion is limited by trade policies and excessive centralization.

Mozambican energy consumption is, in aggregate, driven by biomass. Both rural and urban households rely on firewood and charcoal for a large share of their energy needs. Electric power generation is less common, and dominated by large-scale hydropower, which generates 2GW of the country's total 2.2GW. However, the bulk of this energy is generated by the Cahora Bassa dam in Tete, which is not connected to most of the country's population, and 73% of the energy generated there is exported to via Zimbabwe to South Africa (Mozambique: Energy Profile, n.d.).

Since most rural agricultural areas are not currently grid connected, providing power to them would require either a combination of additional power plants and grid expansion or a focus on off-grid resources. Grid-connected renewable energy development benefits from a recently ratified feed-in tariff, which pays relatively generous rates to wind, small hydro, solar, and biomass projects depending on scale.[39] However, these incentives only apply for electricity sold to the state-owned utility, so do little to incentivize off-grid projects.

At present, many projects that require cooling or energy for other purposes rely on diesel generators—these technologies can be purchased ready-to-use in markets and do not require installation expertise. Small solar panels are also widely available, but firms with the ability to install a larger system that might power a larger agricultural storage unit do not appear to be common, particularly in rural areas.

A number of smaller initiatives are being developed by PPPs under the auspices of the laws discussed above. Two coal generation plants take advantage of domestic resources as well as a small gas generating plant and an additional 1.5 GW hydropower plant are being developed (Bloomberg New Energy Finance, 2015). That said, these resources themselves will only increase energy access in a way that benefits agriculture if they are coupled with significant grid expansion, which may not be cost effective relative to off-grid energy deployment.

FUNAE (Fundo Nacional de Energia, the National Energy Fund) is tasked with spearheading Mozambique's off-grid energy development. To that end, they have established a Rural Electrification Fund, principally focused on building small to medium scale generation systems to power communities. The fund is supported by international donors as well as levies on the sale of grid-connected electricity and budget funds. In 2012 (the most recent published budget year), FUNAE was allocated a spent about MZN 634 million (about USD 16-20 million), 541 million of which was invested in projects. Recent projects include a number of small to medium solar and hydroelectric plants, as well as a solar panel manufacturing facility.

4.4 Irrigation

Although irrigation access is growing, it has reached only a very small fraction of irrigable land.

Mozambique's irrigation investment is managed by the National Irrigation Institute (Instituto Nacional de Irrigação), and operates on a project basis, with all projects at least in part funded by donors. The current National Irrigation Strategy notes that the total irrigated area increased from about 13,700 ha to 27,000 ha between 2001 and 2009 (Ministry of Agriculture of Mozambique, 2013). As of the 2009-2010 census, more than 5.5 million ha were under cultivation and 3 million ha in the country were estimated to be "irrigable."[40] In other words, less than 0.5% of currently used agricultural land and less than 1% of irrigable land in Mozambique was irrigated in 2009. Further, irrigation infrastructure, as well as growth in irrigation infrastructure, is highly concentrated in Gaza province, where the country's largest sugar mills and the Baixo

39 For specific rates see http://global-climatescope.org/en/policies/#/policy/4631

40 Note that the irrigable hectares are not necessarily a subset of the currently-cultivated hectares—these are distinct figures.

Limpopo Irrigation project described above are located. Gaza contains more than half of Mozambique's irrigated hectares and experienced nearly half of irrigation growth over the period. In the case of the sugar industry, much of the capital was presumably provided by sugar companies themselves.

There are some government and donor resources going toward improving these conditions. An estimated USD 645 million has been committed to irrigation, of which, USD 135 million has been provided by cooperative partners as of 2013 irrigation strategy (Ministry of Agriculture of Mozambique, 2013). The 2012 budget records MZN 504 million (about USD 12 million) of spending for irrigation, but this does not include direct spending by donors, which contributes to the total. Overall, past and present focus has been concentrated in Gaza province, where dry conditions and frequent droughts make irrigation particularly important, and in southern Zambezia, where high population density as well as frequent floods are major issues.

The largest current irrigation project, PROIRRI, is principally funded by the World Bank and spans the Zambezi, Pungoe, and Buzi river basins, and is budgeted at a total USD 90 million (Ribeiro & Chauque, 2010). The project, which plans to irrigate around 5,000 ha by 2020, requires that groups of smallholders organize themselves and request assistance with the development of irrigation—these smallholders are then expected to maintain the irrigation themselves, meaning they must have a business plan for generating revenues from the newly irrigated land. The plan focuses on rice and horticulture as principal drivers, and specifies several potential structures, including outgrower arrangements, that might benefit smallholders.

Another large irrigation project is the Munda-Munda project, which is a 3000 ha project in Zambezia province focusing on rice and horticulture,. It benefits from Dutch technical and financial support, and project documents mention a target of 80% domestic (import substituting) rice and 20% fair trade aromatic rice for export. Unfortunately, a 2015 flood destroyed all the existing infrastructure, as the flood was larger than designers expected, and it will require a rethink of the planned construction (Dutch Risk Reduction Team, 2015). In the context of climate change, this type of event highlights the need to design projects with an adaption and resilience components.

POLICY RECOMMENDATIONS

Government policy support should prioritize key infrastructure projects: Road, energy, and water infrastructure are in many cases public goods, and in virtually all cases their construction exhibits economies of scale. At the same time, in the Mozambican context, the current reality is that farmers and investors generally must lead the process of connecting their projects with existing roads, water sources, and electricity (either via the grid or by building an off-grid system). Since much of this construction is therefore likely to be led by private or public private enterprises, the government stands to gain by creating structures whereby those building such projects have incentives to extend their benefit to nearby farmers and communities—such as those presented in the CBF (discussed in Section 2.1) that provides an agricultural investor the right to a VAT exemption on the import of purchases that are inputs to their own production, including things like water pumps and solar panels.

Increase energy access by offering off-grid incentives: The government currently offers an incentive for grid-connected energy produced, but a similar incentive is not available to off-grid producers. For this reason, there is no economic incentive for an agricultural investor building a solar project to power their cooling or irrigation infrastructure to provide access to neighboring communities, even if the marginal cost is relatively low. While this type of initiative might be undertaken as part of a community benefit-sharing arrangement, an explicit government policy to support it has the potential to efficiently provide energy access in off-grid areas. A set of policies to address this issue and the same issue for water infrastructure could go far in leveraging the economies of scale associated with private investments. For example, extending the feed-in tariff to off grid producers, providing up-front incentives or favorable financing for off-grid energy production, or financially supporting scale-ups of small solar projects associated with agricultural cooling or water pumping to also extend to local communities could go far in incentivizing investors to build solar projects that increase energy access.

5. Protection

Deforestation and degradation are increasingly becoming major problem for Mozambique's natural capital. Annual rates of deforestation for 2005-2010 were estimated at 211,000 ha (CIFOR, 2012). Satellite images suggest a steady trend of forest loss, and selective logging of high-value lumber for export has increased in recent years (Hansen et al., 2013).

Effective natural resource protection policy becomes even more important if policies to enable agricultural investment are pursued. Integrating natural resource protection with agricultural growth is core to making growth and climate protection work together. Making investment easier increases the opportunity cost of leaving natural resources intact, and without effective policies to preserve natural resources for the benefit of communities near them, the incentive to convert land to agricultural use may well increase.

Natural resource protection policy in Mozambique consists of designated protected areas and regulation of non-subsistence extraction of forest products. This section focuses on the latter as it is the main interface between agricultural production and natural resource protection. In particular, it focuses on how and to what extent a share of revenues resulting from resource extraction is allocated to local communities and what incentives this creates for these communities to either participate with or subvert government protection initiatives.

5.1 Revenue Transfers

Policies and programs that transfer resources from government or the private sector to local communities are important for two reasons. First, they allow communities to benefit from conservation or agricultural production policies taking place on their land, which if effectively communicated and fairly done also ensures their support for these projects. Second, they diversify local economies, allowing rents from natural capital to be reinvested in support of other types of local businesses.

This section explores both government-led and private sector led policies and programs. The distinction between the two is less clear than it might seem, since developing a plan for sharing benefits with local communities is a requirement for private parties seeking the right to use a parcel of land. We characterize flows of finances and services from local projects to local communities, focusing on understanding how benefits are being shared, and where possible how this sharing compares to what is taking place in other countries.

5.1.1 REVENUE-SHARING FROM EXTRACTIVE ACTIVITIES

Levels of revenue-sharing with local governments and communities from natural gas and mining activities are extremely low compared to other countries

The discovery of vast natural gas reserves in Mozambique has led to a boom in investments in the extractive sector. The government collected over USD 1 billion in revenues from taxes on natural gas-related deals in 2012 (IMF 2013), and estimates suggest these revenues are projected to reach a cumulative total of around USD 115 billion by 2040. As in other resource-rich countries, the development of natural gas and mining activities raises challenging questions related to the distribution of resource revenues, particularly in areas directly impacted by the extractive industries.

In 2013, the government decided that it would transfer 2.75% of the royalties generated by the natural gas and mining sectors for community development in the areas where extractive-industry projects are located. This is extremely low when compared to resource-revenue systems in other African countries. Uganda's Mining Act of 2003, for example, entitles the central government to 80% of all mining royalties, while local governments in mining-affected areas receive 17%, and the owner of the land from which the resources are extracted receives 3%. In the Democratic Republic of Congo, the 2002 Mining Law allocates 60% of royalties to the national government and 40% to the provincial authorities, of which 10% goes to local communities' resource-producing areas. Under Cameroon's 2002 Mining Code 75% of mineral royalties are allocated to the central government and 25% to local authorities. In Angola, oil producing-provinces are entitled to 10% of the revenue from taxes collected on the oil produced

and payments are made directly by oil companies, via the Ministry of Finance.[41]

Currently, this revenue-sharing policy still represents a relatively small percentage of total fiscal transfers to resource-rich districts in Mozambique (World Bank 2014). They are, however, expected to grow in importance with the start of gas exports from the Rovuma Basin before 2020 and could represent a significant share of districts' overall financial resource if the government decided to compensate the communities and allocate a higher rate of total resource revenues to subnational governments provided the latter can overcome their capacity limitations in dealing with resource extraction and revenue-sharing.

Ensuring that these funds are effectively managed at the subnational level is key and a huge challenge in a country with institutional weaknesses. Policymakers often face pressures to channel resource rents to influential localities, meaning it may be a challenge to guarantee that resource revenues compensate and develop the communities where extractive industries operate (World Bank 2014). Establishing clear fiscal rules for revenue sharing, including the mandatory allocation of rents to communities in affected areas, can help to avoid the misallocation of revenues, guaranteeing that a great share of the returns to resource extraction is allocated to offset its environmental and social costs.

POLICY RECOMMENDATIONS

Establish a clear fiscal rule regarding revenue-sharing rates: Though a positive step, the Government of Mozambique's revenue-sharing policy does not constitute a fixed rule. At present, national policymakers determine the size of the allocation on an annual, which raises concerns regarding the transparency of revenue decisions. In this regard, the government should establish a formal rule (established in legal instruments) that determines the share of resource royalties that must be transferred to subnational governments. This rule might either fix a percentage to be transferred annually over a given time horizon, or adopt a formula that reflects the projected growth of resource royalties, the evolution of local spending needs, and the implementation capacity of subnational governments. Moreover, the government should establish more detailed expenditure priorities for resource-revenue transfers to enable greater coordination between central and local governments in the pursuit of national development goals and better monitoring of indicators associated with the established revenue-sharing rule. Finally, policymakers should increase the transfer rate over time to meet the central government's development goals and also the local development of affected communities.

Building subnational governments' capacity to manage and spend funds : The effectiveness of increased revenue transfers will depend on the expenditure capacity and management efficiency of subnational governments. If the proposed fiscal rule offers explicit guidance as to which types of socioeconomic infrastructure are to be financed through resource-revenue transfers, local communities should also retain a key role in decision-making processes on the use of transferred funds to promote local accountability. This arrangement should also provide a balance between the interests of the central government and the ability of local authorities to determine their own investment agendas.

5.1.2 20% TRANSFER TO LOCAL COMMUNITIES

20% transfer of the licensing fees for projects extracting natural resources to local communities specified in the Forestry and Wildlife Legislation is a good policy but weakly enforced

In order to support local communities in their environmental protection programs, the government passed Forestry and Wildlife legislation that includes a requirement for 20% of the licensing fees the government receives from natural resource exploitation to be transferred to the local communities living in the areas companies operate.[42] This 20% requirement is important for the protection of natural resources as it means communities benefit from it in a direct and tangible way.

A law approved in 2005[43] affirms that the Provincial Directorate of Agriculture (PDA) is the entity responsible for promoting the creation of a Committee

41 Source: Brosio and Singh, 2013

42 Approved in 2002 by Decreto nº 12/2002

43 Diploma Ministerial n.º 93/2005

of Natural Resources Management (CGRN in Portuguese) for each community that could benefit from the 20% transfer. Once this committee is formally established, the PDA should proceed to transfer the 20% of revenues collected from the enterprises, revenues which are currently deposited by these enterprises in a special bank account.

In the past, some funds have failed to reach the target communities due to mismanagement. For example, in the province of Sofala local communities were not paid over MZN 46 million which they were owed by the government even though the money had been transferred from logging operators to the Provincial Directorate of Agriculture (CIP 2015). Failing to transfer the 20% to communities could lead to a breakdown of relations between communities and extractive operators, even though these operators are not at fault, as they have paid their license fees to the government.

Without access to updated data, Table 7 shows that there is a huge variation in the number of community groups registered and benefitting from the 20% payments and in the proportion of benefits paid out from 2006-2008. This variation can be explained by differences in capacity and political will across regions, and also the presence of strong NGOs that advocate on behalf of communities in some areas and ensure that they receive the amount they are due. This variation highlights that strong and legitimate community-level institutions are a pre-requisite for both the sustainable management of natural resources and the equitable allocation of benefits derived from the commercial exploitation of these resources.

Table 7: Payment of 20% community share from Forest and Wildlife revenues, 2006-2008

PROVINCE	NUMBER OF GROUPS REGIESTERED	TOTAL AMOUNT (USD)	% PAYMENT RATE
Cabo Delgado	79	616.182	37,3%
Gaza	35	143.676	37,0%
Inhambane	30	302.355	37,6%
Manica	32	312.868	54,0 %
Maputo	25	49.277	40,5%
Nampula	63	260.493	83,0%
Niassa	10	69.207	32,3%
Sofala	18	992.826	23,5%
Tete	35	304.441	53,4%
Zambezia	109	571.502	104,5%
TOTAL	436	3.649.279	49,8%

Source: DNTF Annual reports 2007-2009 and De Wit & Norfolk (2010)

Moreover, if the 20% requirement is not properly implemented, there is space for illegal operators to increase their operations. Communities can benefit from selling natural resources (or ignoring their extraction) for a higher price to illegal operators who can offer a higher price as they benefit from not paying the required 20% to the PDA.

93% of logging in Mozambique during 2013 was illegal, and the key driver of forest crime is to meet ongoing demand from China[44] (Environmental Investigation Agency). This could be avoided if the 20% requirement is well implemented as the direct benefits from these extraction activities to local communities make community members responsible for monitoring and enforcement of the forestry and wildlife legislation.[45]

This fee is going to become increasingly important to natural resource protection as natural resource exploitation expands in the country. If aligned with a legal framework for natural resources exploitation, this policy could incentivize communities not to actively or passively engage in the expansion of illegal extraction activities.

POLICY RECOMMENDATIONS

Require companies to transfer 20% of the licensing fees directly to the relevant communities: Currently, companies must transfer to the PDA, who will then make the fund transfers to the communities (represented by the Committee of Natural Resources Management). Disbursement data suggests it is relatively common that these funds are not passed on to communities in a timely manner. The communities themselves often have few channels through which to complain and are far from the places where authorities and companies negotiate and make decisions. Requiring commercial companies to make direct transfers under supervision of PDA officials to the communities could guarantee that the funds get to where they should and enable communities to have immediate access to the funds.

44 Since 2013, Mozambique has been China's biggest wood supplier on the African continent. The country has lost over USD 120 million in tax revenues from illegal timber exports since 2007 (EIA 2013).

45 It is worth highlighting, for instance, the case of the Community Association of Mareja in Cabo Delgado where, a lack of action from authorities, led the local community to begin to apprehend illegal loggers operating within their delimited area and to impound the unlicensed logs themselves.

Combat misuse of funds by requiring banks to only release funds once a community-approved project plan is in place: Data from the National Directorate of Land and Forestry (DNTF in Portuguese), and from the Ministry of Agriculture show that the majority of revenues transferred to communities are directed to activities that are unrelated to the conservation of natural resources, and may disproportionately benefit powerful community members. Indeed, there are many complaints from community members of mismanagement and misuse of funds, where members of the Committee of Natural Resources Management and community leaders take advantage of the community's lack of knowledge about the existence of such funds for personal gain (DNTF 2012). Legal instruments that regulate this policy should also define mechanisms to determine in which projects the funds should be invested to ensure the community is aware of the decisions made by the managers of the fund. This could be done by requiring that banks only release the amount due to the community when there is a defined project plan that has already been approved in a community meeting.

Consider diverting some revenues from the land tax to local communities: Under the Land Law Regulations, 60% of fees collected go to the recently established MITADER. However, such a land taxation system could benefit local communities, as some of the revenue collected with the land fees could be used to invest in local infrastructure and improve local governments' tax collection systems.

5.2 Direct transfers from companies to farmers

Although not yet widely implemented, direct transfers of inputs to farmers is a good strategy for agribusiness companies to strengthen their supply chains

A good way to connect farmers to markets and stimulate agricultural production is through contract farming (also known as "outgrower scheme"). Under contract farming, a company agrees to provide inputs, technical assistance and sometimes machinery to individual producers as a credit scheme. In return, the farmer must sell their crop to the company, which then deducts the costs of the inputs and services at the selling period. Usually, the farmer agrees to supply pre-defined quantities of a crop or livestock product based on the quality standards and delivery requirements of the company that will purchase the production later. Furthermore, companies usually contribute with technical assistance, teaching the farmers the best practices in all stages of the production.

Despite some failures in this scheme due to farmers breaking the contract and selling to other buyers rather than the contract company, outgrower schemes can strengthen the resilience of supply chains by guaranteeing a market for rural producers and incentivizing companies to closely monitor and improve production inputs and techniques, such as good quality seeds and optimizing the use of fertilizers.

In this regard, the experience of Technoserve, an NGO that has many years of experience working with small farmers in Mozambique, shows that having a good relationship with local communities is key to enabling companies to work in those areas. Their community engagement strategy has focused on avoiding conflict through direct consultation and meeting local needs pointed out by the community: construction of public facilities, such as schools and health centers, improvement of roads, expansion of local electricity infrastructure and access to water.

Many agribusinesses in Mozambique failed because they did not build a good relationship with the local community. A local community that does not agree with a project taking place on their land simply adopts a sabotage strategy: they steal the products, set fire to the plantation, break equipment etc. These experiences teach future producers that the best strategy for contract companies to mitigate conflict is through collaborating and building a partnership with the local community so both actors work together for the success of the project. These partnerships can extend beyond the outgrower scheme, involving local infrastructure development, public good provision, and access to finance.

The Mozambican government is preparing the Agriculture and Natural Resource Landscape Management Project with the aim to operationalize sustainable landscape management programs that contribute both to rural development and greenhouse gas emission reductions. It was approved in July 2016 with financial support from the World Bank totaling USD 40 million. The project places a strong

emphasis on the integration of smallholder farmers into promising supply chains in agriculture, forestry, and nature-based tourism. Through the integrated land use planning, rehabilitation of degraded areas, protection of ecological corridors among other activities, the aim is to improve the resilience of the natural resources on which related value chains depend.

The cashew nuts sector shows that it is possible to have companies promoting green commodity supply chains that integrate smallholder farmers into supply chains for regional and global markets for attractive crops.[46] These models protect the environment and sequester carbon while also generating livelihood opportunities to rural communities.

POLICY RECOMMENDATIONS

Set up a platform for government, international partners, the private sector and civil society to discuss and coordinate climate-relevant actions and investment: Among the different institutions dealing with climate change issues, there is potential for learning, sharing and evidence gathering but often little coordination between actions being implemented by the government, donors, NGOs and the private sector. There are already some platforms to facilitate coordination within these different groups of actors:

- Plataforma Nacional das Organizações da Sociedade Civil para Mudanças Climáticas (PNOSCMC) is platform for civil society
- The Climate Change Working Group brings together donors and international organizations
- The Business Forum for the Environment (Fórum Empresarial para o Meio Ambiente, FEMA) supports the private sector in environmental issues.
- An Inter-Ministerial Group for Climate Change (Grupo Inter-Ministerial para Mudanças Climáticas, GIMC) provides a platform for discussion at the governmental level.

However, there is no platform where all these different groups of actors meet to identify overlapping initiatives and possibly increase their impact.

Get geographical information system fully operational to enable proper monitoring of deforestation and forestry degradation. Monitoring and verification of deforestation and forestry degradation is essential for integrated landscapes projects and is only possible with detailed and regularly updated geographical information. Currently, there is no source of valid data on natural resources as the system responsible for gathering information of the forestry sector (Sistema de Informação das Florestas e Fauna Bravia, SISFLO) is not working properly. It was created in 2007 but was not completely implemented and information rarely becomes available for public use. MITADER should designate a Working Group with a specified schedule to have the system fully operational before its projects start in order to guarantee that the component of monitoring will be fulfilled.

46 See MOZACAJU at http://www.mozacaju.com/

6. Conclusion

Growing national and global demand for food gives Mozambican agriculture the opportunity to be an important source of economic growth and development. Agriculture is the primary activity of 88% of Mozambican households (TIA 2008) and so key to increasing incomes. As 99% of Mozambican farms are small farms (Census 2010), low productivity rates combined with climate risk can negatively lead to increased malnutrition and poverty. Climate change makes it even more important that promotion of improved agricultural production be combined with the production of natural resources. Increased agricultural productivity can increase food production while using fewer natural resources.

Agricultural productivity in Mozambique declined in the last decade, contributing to the stagnant poverty rate of over 50% (Cunguara & Hanlon 2012). Low agricultural productivity is related to many issues faced by rural producers: inputs are expensive and hard to find; there is little or no rural credit, either for infrastructure such as irrigation or for inputs such as seeds and fertilizer; and an under-developed insurance industry means that farmers carry all the risk of weather and uncertain markets. In addition, poor road and port infrastructure prevents small producers from accessing markets, and the lack of reliable energy supplies throughout the country means the private sector is reluctant to invest in the sector. Finally, private sector companies face critical challenges due to lack of skills, ambiguous policy and regulatory systems, and cross-border trading delays.

Well-designed land use policies and improved business practices can address many of these challenges and improve outcomes for investors, communities and the environment. Key conclusions include:

- The Mozambican government needs to support the development of more efficient market institutions by simplifying the tax system and reducing the costs imposed by bureaucracies due to time-delays. Reforms to improve competition and the business environment within the country, including the recently approval of the private credit bureau law, the insolvency law and the ratification and implementation of the WTO trade facilitation agreement should help.
- Agricultural growth requires a financial sector capable of providing the tools to mitigate risk and allow investment. In the Mozambican context, public-private partnerships appear to be important instruments to lower private sector uncertainty to invest in big projects, though their limitations and potentially more cost-efficient alternatives for public finance such as rural credit and crop insurance should also be considered.
- The government should focus its expenditure on the provision of key public goods that are required to stimulate investment in agriculture such as road, energy and water systems expansion.
- Project partners must ensure that communities and local government share the economic and ecosystem gains agricultural development delivers. A collective approach to engagement, discussion and resolution can support this. Effective transfer policies from government and programs from private companies that give back to local communities where projects are taking place can increase local livelihoods and local government support.
- Establishing a coalition between government, communities, and the private sector could combine expertise and resources in commercial farming, complementary infrastructure provision, and private and governmental finance while uncovering opportunities for coordinating efforts. Creating an environment that facilitates agricultural development investment is a challenge that cannot be achieved independently by central and local governments, the private sector or development organizations. The incentives and resources of each group of actors are not enough to drive the action needed to develop the agricultural sector. Other actors should also be involved, such as civil society groups, development organizations, international donors, universities and agricultural research centers.

7. References

African Development Bank Group. (2012). Baixo Limpopo Irrigation and Climate Resilience Project Project Appraisal Report. Retrieved from http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/Approval_by_Mail_Mozambique_Baixo_Limpopo_Irrigation_and_Climate_Resilience_pid.pdf

African Forum and Network on Debt and Development. (2013). What has Tax Got to Do with Development

Almeida Santos, A. et al, (2015). African Economic Outlook. AfDB, OECD, UNDP

Bank of Mozambique. (2012). Comunicado No. 07/2012.

Bloomberg New Energy Finance. (2015). Climate Scope 2015.

Bolnick, B. 2004. Tax Reform and the Business Environment in Mozambique A Review of Private-Sector Concerns. USAID

Brosio, G. and Singh, R. (2013). "Revenue Sharing of Natural Resources: International Practices and Possible Options for Africa." Draft.

Centro de Integridade Pública de Moçambique. 2015. Indícios De Corrupção Nos Negócio De Madeira Em Sofala. Newsletter edição Nº 20/2015—Maio

Chichava, Sergio. (2014). "China's Agricultural Investment in Mozambique: The Case of Wanbao Rice Farm in the Lower Limpopo Valley". SAIS Working Paper, Washington, DC: Johns Hopkins School of Advanced International Studies

Chidiamassamba, Catarina. (2012). Estudo do impacto do Diploma Ministerial nº 93/2005 de 4 de Maio sobre os mecanismos que regulam a canalização dos 20% das taxas de exploração florestal e faunística às comunidades. Ministério da Agricultura, Direcção Nacional de Terras e Florestas (DNTF).

Cunguara, B. & Hanlon, J. (2012). Whose Wealth Is It Anyway Mozambique's Outstanding Economic Growth with Worsening Rural Poverty

DAI and Nathan Associates. (2012). Taxation in the Agricultural Sector in Mozambique. USAID/SPEED

DAI and Nathan Associates. (2015). Incentives for Fertilizer Use in Mozambique. USAID/SPEED

de Paula, Áureo, and Jose A. Scheinkman. 2010. "Value-Added Taxes, Chain Effects, and Informality." American Economic Journal: Macroeconomics, 2(4): 195-221.

De Wit, P. & Norfolk, S. (2010). Recognizing Rights to Natural Resources in Mozambique. Rights and Resources Initiative

Dorosh, P., Wang, H. G., You, L., & Schmidt, E. (2012). "Road connectivity, population, and crop production in Sub-Saharan Africa". Agricultural Economics, 43 (1), 89–103.

Drunen, E. & Veldman, S. (2008). Competitiveness of Maputo as a regional port. Ministry of Transport and Communications of the Republic of Mozambique / World Bank

Dutch Risk Reduction Team. (2015). Flood Control in the Licungo Basin of Zambezi Province, (June). Retrieved from http://www.drrteam-dsswater.nl/wp-content/uploads/2015/06/DRR-report-Mozambique-Licungo-Final-Report-15-June-2015.pdf

Esterhuizen, D., & Zacarias, A. (2011). Sugar Annual Report.

FARE, (2011). Grupos de Poupança e Credito em Moçambique, 10 anos Depois.

FIAS. (2006). Impact of Taxes, Customs, Licenses and other Fees on the Investiment Climate.

Finmark Trust (2012). Status of Agricultural and Rural Finance in Mozambique

FinScope MSME Survey Mozambique 2012

Hanlon, J. & Smart, T. (2013). Small farmers or big investors: The choice for Mozambique

Hansen, M. C., Potapov, P. V., Moore, R., Hancher, M., Turubanova, S. A., Tyukavina, A., ... Townshend, J. R. G. (2013). High Resolution Global Maps of 21st-Century Forest Cover Change. Science, 342(15 November), 850–53. Retrieved from http://earthenginepartners.appspot.com/science-2013-global-forest

Harding, A. 2009. Review of the Effectiveness of Port and Port Terminal Concessions. USAID/Southern Africa

Hunguana, H. et al. (2012). Status of Agricultural and Rural Finance in Mozambique. FinMark Trust

International Fertilizer Development Center. (2012). Kenya Fertilizer Assessment

International Fertilizer Development Center. (2012). Mozambique Fertilizer Assessment

International Fertilizer Development Center. (2012). Tanzania Fertilizer Assessment

International Fertilizer Development Center. (2013). Malawi Fertilizer Assessment

International Fertilizer Development Center. (2013). Zambia Fertilizer Assessment

International Food Policy Research Institute. (2013). The Supply Of Inorganic Fertilizers To Smallholder Farmers In Mozambique

International Monetary Fund. (2005). Tax and Customs Reforms in Mozambique: an Overview. In Republic of Mozambique: Selected Issues and Statistical Appendix. IMF Country Report No.05/311.

International Monetary Fund. (2014). Mozambique Rising: Building a New Tomorrow

Intergovernmental Panel on Climate Change (IPCC). (2014). Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

Jacobs Consultancy. (2005) Railways and Ports Restructuring Project -Transport costs study, Final Report, December 2005

Karlan, D. and M. Valdivia. (2007). Teaching Entrepreneurship: Impact of Business Training on Microfinance Clients and Institutions. Center for Global Development Working Paper No. 107.

Marapusse, R. (2012) Trading Across Borders in Mozambique. USAID/SPEED

Ministério da Agricultura . (2013). Estratégia de Irrigação. Retrieved from http://www.inir.gov.mz/files/2014-07/Estrategia de Irrigacao.pdf

Ministério da Agricultura / Instituto do Algodão de Moçambique. (2012). Relatório do Seminário Nacional Sobre Seguro Agrário. Realizado em Maputo, 29 de Junho de 2012

Ministério da Agricultura e Segurança Alimentar. (2015). Oportunidades De Investimento No Agronegócio Em Moçambique. Apresentação em Abril 2015

Ministério de Terras, Ambiente, e Desenvolvimento Rural. (2016). Sumário do Programa Estrela - Desenvolvimento Rural Sustentável 2015 - 2030

Ministry of Agriculture. (2012). National Fertilizer Strategy

Ministry of Agriculture. (2011). Monitoring Agriculture-sector Performance, Growth and Poverty Trends in Mozambique. Mozambique Strategic Analysis and Knowledge Support System (MozSAKSS). 2010 Annual Trends and Outlook Report (ATOR)Nagarajan, L. et al. (2015). Agricultural Input Markets Strengthening. USAID/IFDC

Mozambique: Energy Profile. (n.d.). Retrieved from https://hivos.org/sites/default/files/mozambique_profile.pdf

Nathan Associates Inc. (2007). The Economic Costs of Port Scanning Fees in Mozambique. USAID/Mozambique Trade and Investment Project (TIP)

Nathan Associates Inc. (2007). The Economic Costs of VAT Refund Delays in Mozambique e. USAID/Mozambique Trade and Investment Project (TIP)

Nathan Associates Inc. 2007. "Land Use Rights for Commercial Activities in Mozambique". USAID/SPEED.

Nathan Associates. (2007). Reducing Import and Export Processing Times in Mozambique. USAID

Nathan Associates. (2009). PARPA II Review — The Tax System in Mozambique. USAID

Navalha, F. (2015). PMEs- Financiamento e Crescimento Acesso ao Crédito Bancário em Moçambique. Apresentação do Banco de Moçambique em Maputo, 21 de Abril de 2015

Ribeiro, N., & Chauque, A. (2010). Sustainable Irrigation Development Project (PROIRRI). Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/11/17/000333037_20101117002518/Rendered/PDF/E25870EA0AFR1E-10Box353780B01PUBLIC1.pdf

World Bank. (2003). Investment Climate Survey

World Bank. (2005). An Economic Analysis of Natural Resources in Mozambique: Rural Land Issues and Policies. Washington DC.

World Bank. (2012). Diagnostic Review of Consumer Protection and Financial Literacy. Volume I. Key Findings and Recommendations

World Bank. (2014). Sharing Natural Resource Revenues with Affected Communities Policy Options for Mozambique. Report No: ACS10342

World Bank (2014). Public Expenditure Review.

World Bank. (2015). Doing Business

World Bank. (2015). Second Programmatic Financial Sector Development Policy Operation (FSDPO II). Report No. 95275-MZ

WHO, UNDP. (2009) Energy Access Situation in Developing Countries

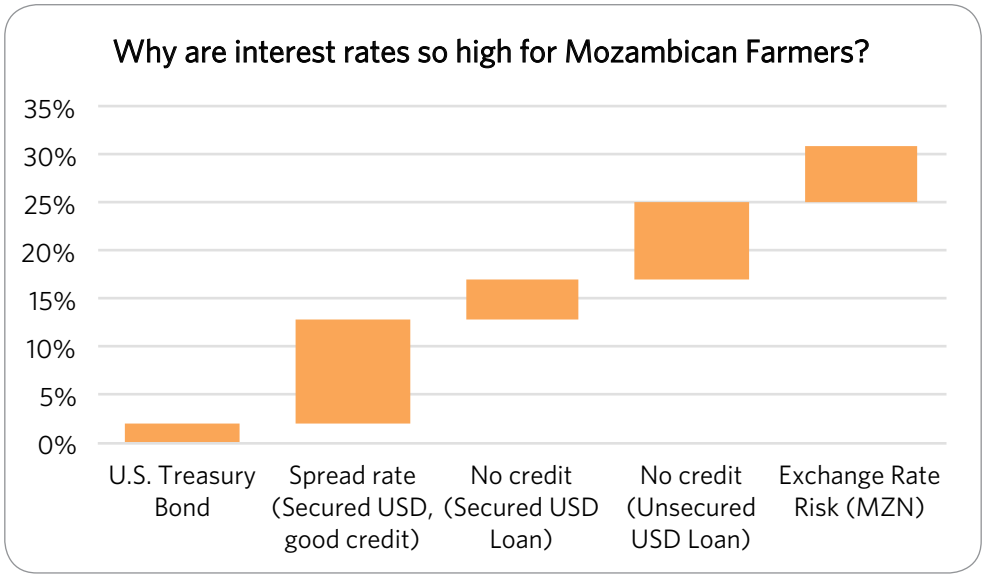
Zandamela, Carlos B., (2011). Estratégia e Sistema de Regulamentação de Fertilizantes em Moçambique. Ministério da Agricultura, Direcção Nacional de Serviços Agrários (DNSA)

Appendix

Why are interest rates so high for Mozambican farmers?

The graphic below explains how the interest rates get to this high level. First, high lending rates reflect high interest rate spreads—the difference between lending rates and deposit rates. For instance, in 2015, the average spread between a one-year lending rate and a one-year deposit rate remained above 10%[47]. Second, there is the risk related to the capacity of the bank to screen good borrowers from bad ones, which we estimate to be 4%, and affect all sectors similarly. Considering the special case of agriculture, we need to add the fact of the existence of specific risks of the sector combined with the lack of a developed insurance industry, what implies that unsecured loans will carry all the weather risk itself—what we estimate to add 8% more to the loan rate. Finally, there is the currency risk: a loan in meticais (MZN) costs between 6 and 8 percent more than a dollar one, even if both are taken from a bank in Mozambique.

That is, an unsecured loan in Mozambique (which is the case for most agricultural loans) is similar to an unsecured loan in the United States (such as credit card operations) plus the currency risk. At the end, the result of adding up all these risks faced by banks to lend money to farmers is a high interest rate that makes credit even more inaccessible as a tool for increase in production—what makes it cheaper for investors to buy and import machinery from South Africa than to buy and finance it through the Mozambican financial system.



47 Compared to other African countries, Mozambique's margin is similar to Kenya and Zambia but is double than that of South Africa (World Bank 2015).