



**Mozambique  
Beira Agricultural Growth Corridor**

**A Public Private Partnership**

**INVESTMENT REQUIREMENTS FOR THE BEIRA CORRIDOR**

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**VERSION 2**

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## 1. INTRODUCTION

### 1.1 National Goals and Priorities for Agricultural Growth and Investment

Mozambique has a clear vision for the long-term growth and development of the agricultural sector, which are outlined in the Comprehensive African Agricultural Sector Development (CAADP), the Strategic Plan for Agricultural Sector Development (PEDSA) and the CAADP Investment Plan. PEDSA 2010-2019 details steps to unleash the vast potential of Mozambican agriculture by creating an integrated, prosperous, competitive and sustainable agriculture sector. It describes a number of specific objectives which aim to: 'Contribute towards the food security and income of agricultural producers in a competitive and sustainable way, guaranteeing social and gender equality.' Essentially, investment will be prioritised into areas with favourable agro-ecological conditions and large comparative advantages to increase productivity throughout value chains.

The PEDSA identifies the development of a number of trade corridors as the catalysts to drive agricultural growth in Mozambique, of which initiatives are being promoted to attract many types of investment. These locations are being targeted due to their huge production potential for food, cash crops, livestock, plantation forestry and fisheries, and also their integration with domestic, regional and international markets. Investment is required to trigger the spillover effects necessary to stimulate sustainable and self-fulfilling growth all over the country. The Government of Mozambique and its partners are investing in infrastructure, equipment, scientific research, services and markets in order to expand the agricultural opportunities available to investors.

The private sector is recognised as the primary driver of agricultural growth and development in these target areas. Investment will further strengthen the linkages in the specific value chains being promoted in all locations. As such, businesses that enable the creation of these linkages are being sought to further develop Mozambican agriculture. In particular, there is significant scope for the development of a network of input supply chains (seeds, fertilisers, machinery, etc.), agro-processing and crop production.



Agricultural growth is planned to be pursued through an innovative 'cluster' approach, thus ensuring large agribusiness involvement and increasing economic opportunity for all. The spillover effects from such 'clusters' will allow smallholder production to benefit from the scale economies provided through this market structure and make farming a more reliable and profitable business activity. The achievement of objectives outlined in the PEDSA will go a long way in contributing to food security, reducing poverty and increasing the opportunities and profitability of agriculture for all. Specifically, a 7% increase in agricultural growth is expected each year, resulting from a doubling of production through increases in productivity and an expansion of cultivated area over the lifetime of the PEDSA.

### 1.2 About the Beira Corridor

The Beira corridor is a large area covering the provinces of Manica, Sofala, and Tete. It has high agricultural potential with over 10 million hectares of arable land with good soils, climate and access to water. But this potential has not been realised. At present there is hardly any commercial agriculture in the corridor. The rural population is almost entirely reliant on subsistence agriculture and remains very poor.

The Beira Corridor is also important to regional economic development. It connects the port of Beira to the central region of Mozambique and through to Zimbabwe, Zambia and to a lesser extent Malawi and DRC. For these areas Beira port is *potentially* a cheaper export alternative than Durban due to its relatively short distance from major mining and agricultural areas. However rail and port infrastructure needs to be improved and volumes will have to increase before transport costs fall to a competitive level. Cross-border connections also remain a challenge.

Today there are excellent prospects for a revival of agriculture along the Beira corridor, for a number of reasons:

- A number of large mining investments are going ahead, which will improve access to infrastructure in the region and boost local demand;
- The recently completed rehabilitation of the Beira Port;
- Major public investments are underway to improve transport infrastructure, including the Beira Machipanda Road (EN6) and Sena railway line;
- Several donor investments targeting irrigation and road development;

## 2. INVESTMENT OPPORTUNITIES WITHIN THE BEIRA CORRIDOR

### 2.1 Availability of land

The Provinces of Manica and Sofala have a total of 685.565,4 ha and 408.654ha respectively available for new investments in agriculture. Tables 1 and 2 show the distribution of this land per district and province

**Table 1: Available land for Agricultural Purposes Manica Province**

District	Area Available (ha)
Bárue	36,272.7
Chimoio City	2,634.8
Gondola	28,745.7
Guro	154,838.1
Machaze	181,823.7
Macossa	120,152.7
Manica	19,811.9
Mossurize	36,093.7
Sussundenga	61,539.4
Tambara	53,652.7
Total Area	695,565.4

**Table 2: Available Land For Agrciultural Purposes Sofala Province**

District	Area Available (ha)
Buzi	114.430,07
Caia	17.587,49
Chemba	33.589,45
Chibabava	117.106,58
Dondo	52.403,62
Maringue	8.426,98
Marromeu	18.583,51
Nhamatanda	46.526,36
Total Area	408.654,05

Land belongs to the state and cannot be sold, alienated, mortgaged or pledged<sup>1</sup>. For its use, potential investors need to apply for long term leases (Right to Use Land or “DUAT”).

A permanent DUAT has a term of 50 years, which is renewable on application by the interested party. The decision to approve a DUAT is taken at the levels indicated in the table below.

**Table 3: Authority to approve DUAT's**

Investment area (Ha)	Entity responsible for approval
≤ 1 000	Provincial Governor
≤ 10 000	Ministry of Agricultures
> 10 000	Council of Ministers

## 2.2 Priority Value Chains

The Beira Corridor has diverse microclimates that allow for the production of a wide range of agricultural enterprises. The following value chains are considered priority both for the private and public sector:

<sup>1</sup> Article 3 of the Land Law 19/97



Poultry



Horticulture



Rice



Oilseeds (soya, sesame)



Maize



Dairy



Beef Cattle



Sugar Cane

### 2.2.1 Horticulture

Vegetables present a significant opportunity for import substitution within Mozambique. Most vegetables are imported from South Africa. Recent entrance of supermarkets such as Shoprite as well as mining development activities in the Beira Corridor and Northern Mozambique provides increased market opportunities for locally grown vegetables. Export of vegetables to European markets is also an option for Mozambique, which has a competitive advantage over other Southern African countries like Zambia, Zimbabwe and South Africa. Most of Southern Africa cannot produce frost-sensitive crops like baby-corn, beans, and chilies during winter months but the Beira Corridor can. Vanduzi, based in Manica has maintained a thriving baby corn and chili export business to Europe for some time. For the emerging agribusiness sector the main challenges to horticultural production include:

- Lack of irrigation. Irrigation is required for sustainable, year-round production of vegetables
- High post-harvest losses. Production of undifferentiated products result in gluts, high losses and low prices
- A packaging and grading facility is required to allow smallholder producers to break volume and participate in niche markets such as hotels, supermarkets and catering firms servicing the mining sector
- Lack of cold-storage at production centres makes it difficult to maintain the cold chain for vegetables
- Air freight infrastructure needs to be improved for vegetable exports to be competitive – Beira and Chimoio airports are not equipped for fresh produce freight, so vegetables are air freighted from Harare, Zimbabwe or Johannesburg, South Africa at great cost

	Inputs	Production	Marketing
<b>Current Situation</b>	Only 10% of small farmers	Low yields, undiversified	High postharvest losses,

	use improved seeds, fertilizers	production; underutilisation of irrigated land	limited markets, inability to reach niche markets
<b>Potential Investments</b>	<ul style="list-style-type: none"> <li>Seed Importer</li> <li>Research in improved yields</li> </ul>	Training and extension of farmers Establishment of outgrower schemes to enter into niche Vc	<ul style="list-style-type: none"> <li>Establishment of wholesale market in Chimoio</li> <li>Establishment of processing and packaging company</li> <li>Establishment of cold storage facilities at selected irrigation schemes</li> </ul>
<b>Recent Investments</b>	Savon, IAV, Soluções Rurais, Mozfer	500ha PROIRRI irrigation investments in Vanduzi and Rotanda investment); large scale producers - Consorcio de Fruticultores de Manica, Fruit Manica, Mac In Moz, Ausmoz, RDI, Farma Luz do Sol, Panda Farm Gan El, Transtembue	Westfalia, Companhia de Vanduzi

## 2.2.2 Rice Value Chain

Mozambique has the 3rd highest rice consumption in SADC, but is mostly dependent on imported rice. Unlike neighboring countries, the share of imports has not reduced over time and instead remains at over 60%. Despite the significant growth potential for rice (Mozambique's climate and soil are considered very well-suited to rice), domestic production has only grown at the same rate as imports. Without increased local production, this gap will only grow due to a projected 7% domestic demand increase per year. There is good potential for rice production in Sofala. The main constraints include:

- lack of irrigation to allow for all year round production
- Limited availability of certified seed and/or varieties that can make rice competitive against imports
- Harvest and post-harvest practices are rudimentary for the large majority of rice farmers, which results in considerable labor inefficiency and post-harvest loss.
- Limited processing capacity

	Inputs	Production	Milling
<b>Current Situation</b>	Only 3% of small and medium-size rice farmers use improved seeds	Lower yields as farmers frequently are not leveraging optimal farming technique, including irrigation practices	>15% grains lost after harvest because of old machinery Capacity incompatible with expected raise of production
<b>Potential Investments</b>	<ul style="list-style-type: none"> <li>Improved Seed and production distribution</li> <li>Research in</li> </ul>	<ul style="list-style-type: none"> <li>Training and extension of farmers</li> <li>Irrigated farms</li> </ul>	<ul style="list-style-type: none"> <li>Independent mills</li> <li>Integrated mills</li> </ul>

	improved yields		
<b>Recent Investments</b>		300ha ACABOCO smallholder irrigation scheme in BUZI (PROIRRI programme investment)	AAA factory in BUZI

### 2.3.3 Poultry Value Chain

While domestic demand in Mozambique has grown slightly in past, future demand is expected to more than triple in the next 10 years. Impact of considerable growth in mining as well as oil and gas sectors on working population will help fuel domestic demand. Feed costs correspond to over 75% of total costs. With growth in the domestic soy cake industry, potential for reduced input costs could further drive demand. With much of imports coming from distant location (Brazil, US, Asia), high sea freight costs for competitors should provide attractive margin potential. Expected domestic expansion of inputs production (mainly soybeans and maize) should push down costs allowing for greater competitiveness

	Inputs	Production	Processing
<b>Current Situation</b>	Lack of domestic feed and individual inputs (e.g.: soy cake, soy oil, maize) requires importation absence of good veterinary services	no eggs for reproduction are available locally  Day old chicks mainly imported  High capital investment requirement for electricity infrastructure and temperature controlled huts to improve poultry production	Limited availability of commercial processors
<b>Potential Investments</b>	Feed production Increased production of maize, soyabeans Wider distribution networks	need for more investments in the production of day-old chicks. Training of farmers	Supply of Equipment (Incubators)  Establishment of processing units (sofala)
<b>Recent Investments</b>		Abilio Antunes factory in manica Agromaco manica	

### 2.3.4 Soyabeans Value Chains

Strong demand from poultry industry and opportunities to refine soy oil domestically will continue to transform soybean industry in Mozambique. Substitution of imported soy cake to supply a booming domestic poultry industry will drive local market growth. Its high nutritional value (high protein content and amino acid composition) leaves soybeans with little substitution threat for feed. A Growing soy oil industry will further enhance viability of soy value chain (soy oil prices are 22% higher than vegetable oil). Soy oil producers currently import the vast majority of crude oil for refinement. Unutilized oil by product from domestic soy cake production can be processed and substitute importations of crude soy oil. The main challenges to soyabean production include:

- Limited processing facilities for the production of feed, oil limits demand . There is a significant risk of a growing **monopsony**, where Abilio Antunes set prices of soy
- Lack of locally adapted varieties limits yield.

- Limited seed availability. Seed in use is mainly imported from neighbouring countries of Malawi, Zimbabwe and Zambia
- Limited knowledge of good agricultural practices among farmers limits yields and quantities available for the market

	Inputs	Production	Processing
<b>Current Situation</b>	Lack of locally adapted seed, inoculant	Inadequate knowledge of the crop by farmers, low yields, high post harvest losses	Limited availability of commercial processors
<b>Potential Investments</b>	Production and distribution of local seed varieties; research into local varieties	Training of farmers Mechanised harvesting technologies	Establishment of local feed processors, oil processors
<b>Recent Investments</b>		Abilio Antunes factory in manica; So Soja	

### 2.3.5 Maize Value Chain

Maize is an important staple within Mozambican and the region. Additionally, increasing demand for feed will parallel poultry industry growth in domestic and foreign market, including meaningful exports to Malawi and Zimbabwe. Maize is an excellent rotational crop with soybeans

Main challenges include:

- Low use of improved seeds, fertilizers, and lack of best practices reduce maize yields to one of the lowest in Africa
- Limited supply of small-mid size storage facilities prevents farmers from storing grains produced, leading to significant price volatility

	Inputs	Production	Processing
<b>Current Situation</b>	Lack of good quality seed, limited availability of hybrid seed	Poor agronomic practices inadequate use of fertilizers result in low yields	Limited availability of commercial processors Low farm gate prices
<b>Potential Investments</b>	Production and distribution of good quality seed, development of agro dealer networks	Training of farmers	Establishment of local processors, Invest in improved post harvest storage
<b>Recent Investments</b>		DECA, ECA ijn Manica	

### 2.3.6 Sugar Cane value Chain

Sugar cane is one of the leading industrial value chain with two operational factories in the province of Sofala. Opportunities exist for the establishment of outgrower schemes with both smallholder farmers and medium size producers. Successful schemes have been established recently around Mafambisse sugar estate. Mafambisse has an installed annual processing capacity of 92.000 tons against current utilisation of 60.000tonnes. About 1.000ha of land is available along the Muda River to support further expansion of the area under outgrower production. Main constraints include:

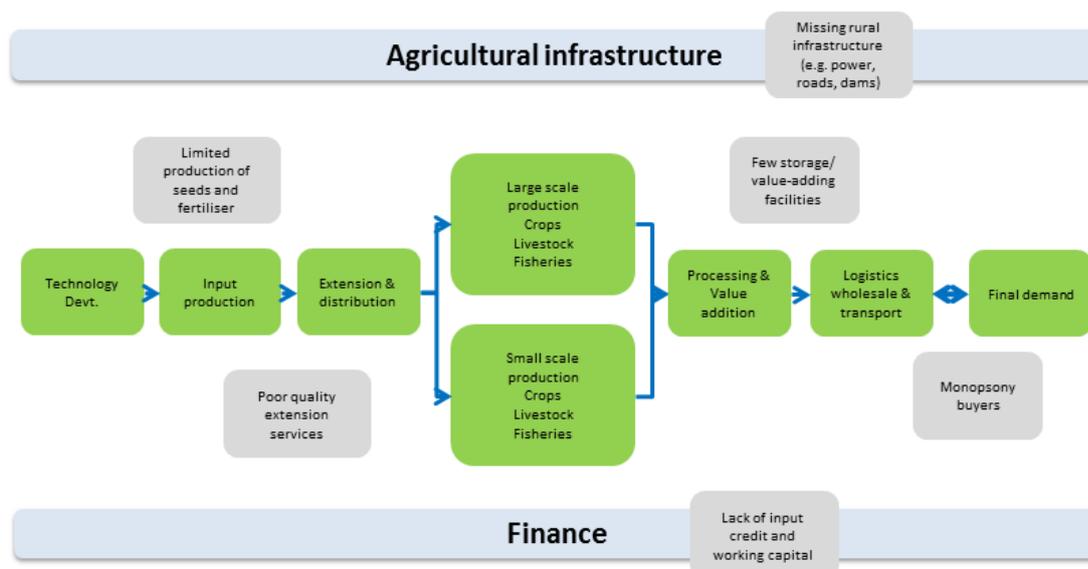
- Availability of finance to meet the cost of land development and irrigation installation
- Availability of irrigation water. A potential dam site has been identified along the Muda River

### 2.3.7 Dairy Value Chain

The Beira Corridor is suitable for dairy farming. There are only four operational dairy plants in Mozambique, three of which are located in the Corridor. Two such plants are located in Chimoio and process approximately 2,000 litres of locally sourced milk) daily. A Cooperative managed plant is located in Beira that processes 1,100 litres daily. The main constraint faced by dairy farmers in Mozambique is the poor physical access to markets, which is exacerbated by their very small-scale production. With only one or two milk cows in production, most farmers produce a surplus of only a few litres of fresh milk per day, if any. What is primarily missing is an organized supply chain that connects dairy farmers to the market. In addition, low productivity prevents farmers to increase their milk surplus. Poor yields are the resultant of poor animal husbandry practices, poor animal nutrition, lack of adapted breeds, infertility, reproduction disorders, and animal diseases. These problems need to be strategically resolved to further the development of the dairy industry in order to attain self-sufficiency and enhance cash income generation for the dairy farmers. An emerging opportunity is a new USDA financed and Land O Lakes implemented dairy development programme that will be implemented in the Corridor over the next five years.

## 3. INVESTMENT REQUIREMENTS

Several constraints can be identified that are affecting the growth of commercial agriculture and agribusiness in the Beira Corridor. The interaction of these constraints makes farming on a commercially sustainable basis in the Beira corridor very challenging.



The following across value chain investments are considered relevant for the development of commercial agriculture and agribusiness in the region.

### 3.1 Investment in Irrigation Development

Agriculture cannot be profitable without access to irrigation infrastructure. This requires water harvesting and resources for development of in-field infrastructure. Improving such infrastructure requires a combination of public and private sector funding. Existing government strategies have prioritized investments in small-scale irrigation schemes. The main challenge has been to ensure that beneficiaries profitably utilize and maintain available facilities. Complimentary strategies to support private sector efforts in irrigation development are required. This could be through the establishment of an Irrigation Development Fund, that entrepreneurs can access to make co-investments in water harvesting facilities and irrigation equipment for priority value chains

A number of potential dam sites have been identified in both Manica and Sofala provinces. The table below shows an example of such sites for Sofala province.

Type	District	Location	Purpose
Medium Dams	Gorongosa	Murombodzi	Irrigation
	Gorongosa	Nyamkamba	Irrigation
	Gorongosa	Chitunga	Irrigation
	Dondo	Macharote	Irrigation
	Dondo	Mandruzi	Irrigation
	Chibabava	Toronga	Irrigation
	Chibabava	Buinhe	Irrigation
	Chibabava	Daka	Irrigation
	Machanga	Matongua	Irrigation
	Machanga	Chitunga	Irrigation
	Maringue*	Canxixe	Irrigation
Earth dams	Chibabava	Mucheve	Irrigation
	Chibabava	Muxungue	Irrigation
	Nhamatanda	Jasse	Irrigation

### 3.2 Development of Electricity Infrastructure

Within the Beira Corridor there is reasonable “backbone” road and electricity infrastructure but the “last mile” connections to productive farming areas are missing and/or very expensive to install. The public utility company EDM for example currently charges \$32.000/km for electricity line installation excluding the cost of a transformer.

A number of farming clusters have been identified. The establishment of electrical links to such areas will provide new impetus commercial and agribusiness growth in these areas. The following farming clusters have been identified:

#### Manica Province

- Sussundenga
- Vanduzi
- Barue
- Honde
- Sera Shoa

#### Sofala Province

- Dondo (Vale do Mandruzi)
- Buzi (Inharonge)
- Goronngoza (Nhabirira, Nharirosa e Nhaurenga)
- Muda
- Nhamatanda (Lamego, Nhagurro, Macalaurre e Agripel, Metoxirra – Pita)
- Caia (Muarça e Sena)

### 3.3 Development of Marketing Infrastructure

Establishment of a wholesale market for fruits and vegetables in Manica is considered necessary to allow farmers and traders within the region to freely trade their horticultural commodities. To reduce post-harvest losses and maintain the cold chain, investments in cold store infrastructure is required at the level of the recently developed irrigation schemes that serve as main centers of smallholder horticultural production. Improving access roads serving such production centers would also improve marketing efficiencies.

### 3.4 Support for development of Private Sector

There is a need to crowd in more agribusiness investments in the corridor. This will provide more anchor investments to drive growth; increase demand for commercial services and reduce the per unit cost for providing infrastructure. It is considered necessary to promote the emergence of a class of medium sized agribusiness operators. There is also a need to build capacity of smallholder farmers to become commercial operators allowing them to take steps towards becoming larger-scale farmers employing modern farming

It is considered necessary to implement incubation models that would seek to address key constraints faced by emergent agribusiness operators - i) access to capital ii) technical knowledge on management and enterprise specific issues

#### INCUBATION MODELS

**Catalytic Funding:** The Catalytic Funding is required to support early-stage businesses, helping to ‘kick start’ commercially-viable agriculture businesses. The Fund invests early-stage capital on concessional terms in agriculture businesses that have linkages to smallholder and emergent farmers. By providing business advisory and technical support it helps clients establish profitable operations that are capable of attracting third-party debt and equity.

**Serviced farm blocks** – This would involve identification of a suitable large piece of land that is subsequently divided into smaller but economic units and allocated to interested users selected on the basis of their ability and/or interest to productively utilised such land. The identified area would be developed and equipped with the necessary productive infrastructure – irrigation, electricity and access roads. Users would be supported by suitable finance mechanism as well as provided with technical assistance during the initial years to guarantee success.

**Commercial hubs and outgrower schemes** in priority value chains such as poultry, horticulture, rice and sugar cane. The commercial hub provides a market, extension and other support services (potentially with donor support in the early years) while the smallholder provide the majority of the “raw material” required by the agribusiness.

### 3.5 Establishment of Farmer Training Centre

The development of commercial agriculture and agribusiness is constrained by several factors one of which is a shortage of skills. Farmers wishing to start or expand their enterprises lack a one stop place to acquire skills and knowledge in such enterprises. Existing commercial producers in the corridor experience problems hiring skilled farm workers and farm managers. The Beira Agricultural Growth Corridor proposes to establish a training centre to meet the skills requirement for the development of commercial agriculture and agribusiness in the corridor. The training centre will cater for training needs of young farmers wishing to start or expand their farming enterprises as well as practising farmers requiring specialist knowledge of an element of their enterprise. The centre will offer short duration courses on a wide range of enterprises. The objective of this training is to provide agricultural knowledge and skills to practising farmers so that they improve their agricultural production and productivity. Such short term courses will also be suitable for farm workers. The Training Centre will be operated from two locations: one in Chimoio and the other on a 1000ha farm in Barue district of Manica Province. The two centres will be equipped with infrastructure for irrigated crop production as well as livestock production. The Chimoio Centre will be strategically located to take advantage of training infrastructures and facilities available at partners Institutions. Given the limited opportunity for external internship attachment on commercial farms and agribusiness, the centre will have in-house facilities for practical training based on an incubation model.

#### Training Model

The centre will offer students an opportunity to manage a selected commercial enterprise from inception to finish and thus gain skills and knowhow of managing an enterprise under commercial conditions.

Trainee identifies a project of his choice which should be approved by the College. The trainee plans the project and applies for funding to implement the project from college revolving fund or commercial sponsor. .

All the assistance and services the trainee gets from the centre is properly and accurately recorded and will be added to the cost of implementing the project when calculating profit. Students will retain profits after liquidating their loans

### 3.6 Investing in Coordination Mechanisms (Support for BAGC Partnership)

Successful development of the Corridor involves a series of interconnected investments along the value chain. The co-ordination problem is that the success of an investment at one point in the value chain is often dependent on successful timely implementation of investments by other parties elsewhere in the value chain. For example on-farm investment will often only be profitable if off-farm investments in infrastructure are made as and when planned; investment in processing facilities will only be profitable if farm production grows as and when planned; and investments in improving input supply chains will only pay off if on-farm demand for those inputs grows as and when planned. How can private sector companies minimise the risks of failure by other private sector and/or government parties to complete planned investments on time? The situation is particularly complicated here because there are a large number of parties involved from the private sector, national, provincial and local government and the international community. To address some of these co-ordination problems a Beira Corridor Partnership with a board and small secretariat has been operational since 2012. Partnership membership includes participants from the private sector, government and the international community. Through its Secretariat, the Partnership activities include:

- Ensuring public and private sector investments along agriculture value chains are properly coordinated;
- identify strategic and investment partners capable of contributing to the long-term success of the BAGC
- bringing together agri-business and supporting services that underpin agricultural value chains.
- Providing information to its members
- Identification of funding and technical assistance programmes that might be accessed to support the development of a broader profitable agricultural platform.
- Working with donors to align new or current programmes to situations where farmers and commercial agribusiness require complementary finance; and
- Supporting investment and help to provide a suitable business environment for agricultural investors who will engage with small and medium sized farming interests in the corridor