

Witteveen+Bos
Willemstraat 28
P.O. Box 3465
4800 DL Breda
The Netherlands
telephone +31 76 523 33 33
fax +31 76 514 44 42
www.witteveenbos.com

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prepared by I.A.A.C. Mouwen MSc, T.M.W. van den Broek MSc, P. Letitre MSc
approved by H.P. Laboyrie MSc initials 
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to Agency NL Ben Lamoree
copy Witteveen+Bos H.P. Laboyrie MSc
P. van Weelden MSc

1. INTRODUCTION

Mid July of 2013, an advisory board meeting will be held in Beira, Mozambique. Also, a round table meeting with financial institutions will be held. Because of these occasions, some preliminary project briefs have been drawn up. These project briefs are based on the results of the first phases of the project Masterplan Beira 2035. The Masterplan project, including a longlist of projects, will be completed in the fourth quarter of 2013. This memorandum describes and substantiates the outlines for a project proposal aimed at the establishment of a sand production company and land development company.

The goal of this project brief is to provide input for a discussion on the basic idea of the establishment of a sand production company and land development company in Beira. The subsequent goal is to get approval from the advisory board for the further elaboration of this idea, including an analysis into the legal and financial feasibility of the project. Ultimately, a project proposal for the establishment of a sand production company and land development company could be one of the final deliverables of the Masterplan project.

2. CHALLENGES FOR BEIRA

Beira is located in the delta of the Pungue River, where the Pungue River meets the Indian Ocean. The city is facing several challenges. One of these challenges is the accommodation of the substantial demand for (new) land and infrastructure due to economic growth and population growth:

- the average forecasted population growth of the city of Beira until 2035 ranges from 2,25 % to 4,25 % per year. These forecasts imply an increased demand for residential areas of circa eleven thousand hectares to sixteen thousand hectares until 2035.

This area includes the spatial requirements for services (e.g. shops, banks, health and education services), which are often mixed into residential areas;

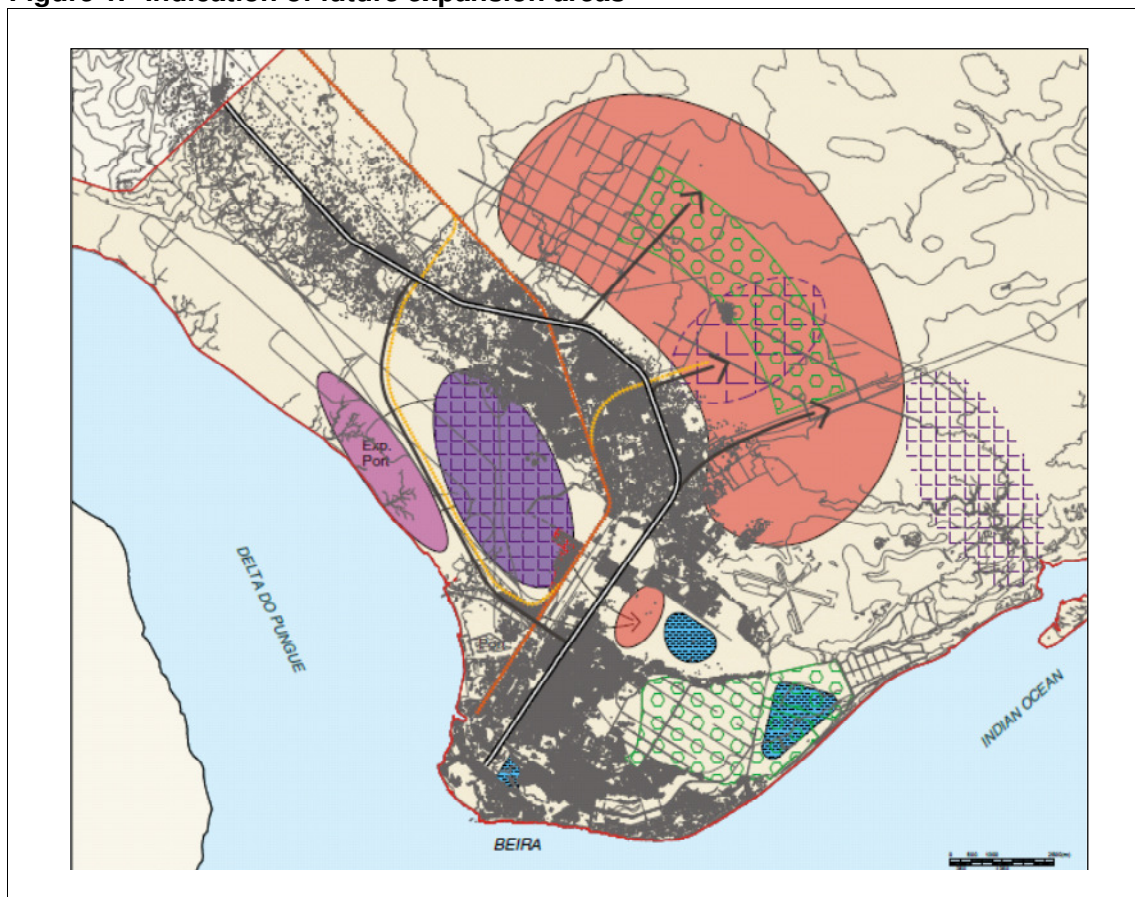
- the economic forecasts range from 4 % to 8 % per year and imply an increased demand for business and industrial areas. The industrial area in Beira currently covers circa 580 hectares. Transport and logistics companies, including warehouses, dominate these areas. Considering the continued dominance of transport and logistics companies in the Beira economy, the industrial area requirement is assumed to be proportional to the economic growth, i.e. in the low scenario at 4 % per year and in the high scenario at 8 % per year, resulting in respectively 1,375 and 3,150 hectares (total surface area);
- based on the low and high forecast scenarios, the required port area (in terms of net area for terminals) is 237 hectares or 527 hectares. The current port area is circa 78 hectares. The additional terminal area could result in a lengthened quay of circa 3 kilometres. The total port area requirement (including infrastructure and other facilities) is circa 575 to 1,270 hectares.

In cooperation with local stakeholders within the context of the Masterplan project, the future expansion areas of Beira were identified:

1. residential areas to the north-east of the city centre;
2. industrial areas to the north-west of the city centre, adjacent to the current port.

See figure 1 for a rough indication of these areas (purple: industrial areas, red: residential areas).

Figure 1. Indication of future expansion areas



A second challenge are the serious climate-related threats Beira is facing. A clear climate adaptation strategy is of major importance because the city is located just a few meters above sea level and faces heavy rainfall during the summer.

Fortunately, Beira is not only faced with threats and problems. The port of Beira and the strategic location of Beira near the Indian Ocean and at the end of the Beira corridor (rail, road plus an oil pipeline) give Beira an advantage over other Mozambican and African cities. Combined with the economic possibilities in the hinterland (e.g. vast coal reserves, vast agricultural lands and increased demand for goods in hinterland countries), several opportunities exist to improve the socioeconomic conditions in Beira.

3. CAUSE AND MOTIVE OF THE PROJECT

3.1. Current concessioning practice

The municipality of Beira (CMB) is not able - in terms of knowledge, financial and human resources - to realize integrated urban development plans, to coordinate urban planning, to effectively cooperate with public and private stakeholders and to realize basic urban infrastructure. One specific problem is the current practice surrounding land concessions. The municipality of Beira currently issues land concessions to residents, industry and developers. There is no concession or development strategy which is consequently implemented by the municipality of Beira nor are the concessions properly registered. The current practice of concessioning is basically ad hoc and this leads to the following problems (among others):

- land use conflicts in industrial and residential areas. Land use conflicts lead to disorderly and inefficient urban patterns. Ultimately, they hinder the economic development of Beira;
- land speculation. Land speculation contributes to land use conflicts, increased land prices and ultimately hinder the development of residential and industrial areas which are provided with necessary infrastructure;
- (very) poor living conditions of the inhabitants of Beira due to the development of residential areas in unsuitable flood prone areas;
- (very) poor living conditions due to the uncoordinated development of residential areas without the provision of basic infrastructure (e.g. drinking water, sewage, drainage).

3.2. Physical characteristics of expansion areas

Furthermore, the indicated expansion areas for port and industry are swampy and soil conditions are therefore highly unfavourable. The low-lying area has a soil structure of more than 5 - 10 meters of clay and groundwater tables are high. Soil (stability) conditions are therefore unsuitable for industrial purposes and considerable technical improvement and investments are needed to prepare the area for port-related functions, industry and transport infrastructure. To improve the stability, the area needs to be raised with at least 1-2 meters of sand. Furthermore, a drainage system needs to be constructed before port-related functions, industry and transport infrastructure can be realized.

Part of the port and industry expansion area is a new port access road, with the goal to alleviate the present main access road of Beira. This urges the need for land raising and drainage.

The indicated residential area is situated at higher elevation than the present city of Beira. In principle, this provides better conditions from a flood risk perspective. The topography of the area is very irregular due to many waterholes caused by sand mining. The area therefore preferably needs to be levelled before construction can take place and the area also needs to be provided with basic infrastructure (e.g. drainage, sanitation and road infrastructure). Some of the sand mining holes can potentially be part of green infrastructure and/or could serve as retention basins.

4. PROPOSED SOLUTION

The goals of the project are mainly:

- to provide dry land and plots for residential and industrial purposes. These plots should be further made adequate for construction (i.e. levelling);
- to realize adequate (good quality) housing, industrial plots and basic infrastructure, specifically drainage and transport infrastructure.

To meet these goals, sand is necessary to raise the level of large areas with approximately 1 - 2 meters. In current practice, each individual plot is raised individually. This ad hoc way of land development averts problems, especially with regard to drainage, to other plots and is essentially time consuming and very costly. To increase the quality of residential and industrial areas and to cut costs, integrated levelling of residential and industrial areas is required. Two institutions are necessary to realize efficient sand placement and integrated levelling of residential and industrial areas:

- first, a sand production company;
- second, a land development company.

Sand placement and ground levelling of areas can be made even more efficient and less costly if sand is produced near the city of Beira. An opportunity in this case is the requirement of constant dredging of the port access channel. The dredging is performed by the Mozambican National Dredging company, Emodraga. With the recent arrival of a new dredging vessel, capable of transporting and pumping sand, the present and future demand of sand could be met. The yearly capacity of the sand delivery is estimated at two million cubic metres. From these dredging activities, sand could become available for construction purposes. Due to the sedimentation of the port, the supply of sand is expected to be steady.

The demand for new institutions and the availability of sand due to dredging operations has led to the idea of applying the Dutch concept of a land development company in Beira, added with the concept of a sand production company. This concept could also improve the financing capacity of CMB.

5. STRUCTURE OF COMPANIES

The concept comprises the establishment of two or three companies. These companies serve two main tasks:

- first, efficient use of the dredged sand. This is a task of the sand production company;
- second, development of industry and residential areas. This is a task for the land development company.

These two tasks should not be incorporated in one business unit because of different business focus and different relevant stakeholders. For example, Emodraga's primary interest is the marketing and sale of sand and not land development. The sand production company is envisioned to be a public-private partnership. Emodraga will supply the necessary knowledge on dredging and the necessary dredging and transportation equipment. The municipality of Beira will guarantee the sale of sand. Emodraga will receive a reasonable fee for the dredging and a guaranteed price for the sand. The municipality of Beira can buy sand for a reasonable price.

The land development company is responsible for the elevation of terrains, the realization of necessary infrastructure and the company also ensures the sale of the land. We hereby note the development of residential areas is essentially different from the development of industrial areas:

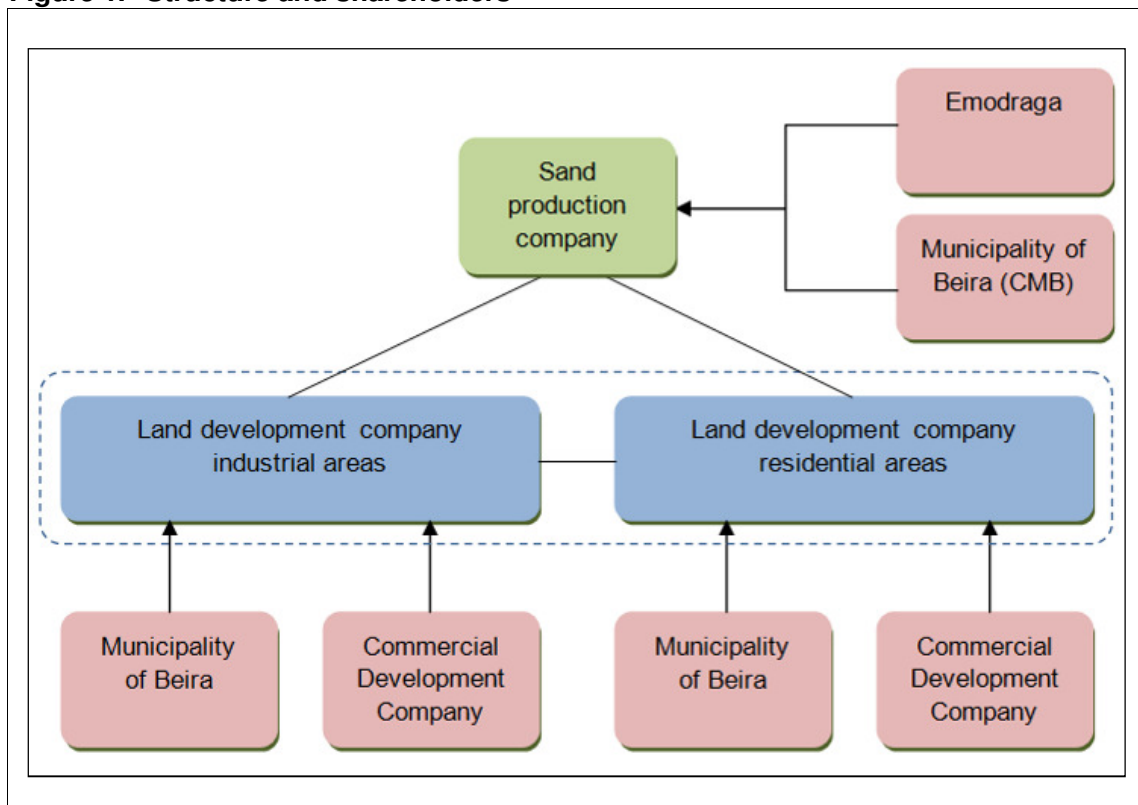
- the development for industry is driven by square meters. There can be a few 'specials' like quay facilities or rail infrastructure. The development company can be a public-

private partnership company. The municipality of Beira should ensure the delivery of sand at a market price, should provide legal (planning) regulations and should develop the necessary land. The commercial development company will deliver its knowledge about development and marketing;

- the development of residential areas requires a different development protocol. The land development company will issue land concessions and building rights to project developers or construction companies. In this process a distinction should be made between high value residential areas and areas for low cost (social) housing. The revenues from high value developments should be used to finance the development of social housing. This is only feasible and manageable through spatial planning in which the high value housing areas and social housing areas are defined and planned in advance. The Masterplan and subsequent zoning plans should therefore be implemented and enforced. Furthermore, depending on the type of housing, different prices for land should be applied. For example, an apartment needs less terrain than a two story house. The price for the terrain should be different per square meter and should depend on the type and density of housing. Finally, the municipality of Beira should ensure the delivery of sand at a market price, should provide legal (planning) regulations and should develop the necessary land. The commercial development company will deliver its knowledge about development and marketing.

The possible structure of the sand production company and the two land development companies is illustrated in figure 2. The shareholders are indicated in pink. It is conceivable that the two development companies will operate separately in one holding.

Figure 1. Structure and shareholders



Potential shareholders for the sand production and land development company are: CMB, Emodraga, CFM (Mozambique ports and railways, a state owned company that oversees the railway system and its connected ports) and private project/real estate developers. Their specific interests and tasks are:

- CMB owns the rights for land development and could bring these rights in as an asset. Participation of CMB will increase control of CMB on the supply of sand and effective allocation of sand. Also, CMB could profit financially;
- CMB needs sand to develop industrial and residential areas and also needs sand to improve the coastal protection;
- Emodraga dredges sand and wants to sell this sand. To meet this goal, it needs land for storage and transport facilities;
- CFM needs sand for the future expansion of the port, specifically for land preparation and improvement of the soil characteristics;
- the interest of project/real estate developers is to develop and sell houses/real estate.

Conditions for success and follow-up questions

There are several preconditions to successfully implement both the sand production company and the land development company/companies:

- specialised companies or institutions should supply the required expertise with regard to land and infrastructure planning and development and should assist the shareholders during the establishment of the companies and during the first year(s) of operations. Such companies should be contracted and selected through a tender procedure;
- the Masterplan should be implemented and enforced. Furthermore, subsequent (more detailed) structural and zoning plans have to be developed;
- sufficient public and political support has to be generated. Especially the cooperation between local and national government parties should be enhanced;
- solid business cases for all three companies have to be developed;
- the companies and development procedures should be legally embedded;
- a pilot project for one (or several) plots has to be performed, to assess the feasibility of the companies and related development procedure within the Mozambican/Beira context.

The initial (research) questions which have to be answered are:

- to analyze the financial feasibility of the project;
- to analyze the legal context and possibilities for legal embedding;
- to analyze the contractual possibilities;
- to assess and/or stimulate the commitment of potential shareholders;
- to elaborate the business case(s) for the companies.