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EXPORT PROCESSING ZONES AUTHORITY EPZA

BAGAMOYO SEZ MASTER PLAN

FINAL REPORT

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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>BIT</td>
<td>The Bagamoyo Institute of Tourism</td>
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<tr>
<td>BOOT</td>
<td>Build, operate, own and transfer</td>
</tr>
<tr>
<td>BOT</td>
<td>Build, operate and transfer</td>
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<td>BSC</td>
<td>Proposed Bagamoyo SEZ Zinga service centre</td>
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<td>CAPEX</td>
<td>Capital expenditures</td>
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<td>CF</td>
<td>Cash flow</td>
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<td>DAWASA</td>
<td>Dar es Salaam Water and Sewage Authority</td>
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<td>DRC</td>
<td>Democratic Republic of the Congo</td>
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<tr>
<td>DSCR</td>
<td>Debt service cover ratio</td>
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<tr>
<td>EAC</td>
<td>East African Community</td>
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<td>EPZ</td>
<td>Export processing zones</td>
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<td>EPZA</td>
<td>Export processing zone authority</td>
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<td>FDI</td>
<td>Foreign development investment</td>
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<td>GDP</td>
<td>Gross domestic product</td>
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<td>GoT</td>
<td>Government of Tanzania</td>
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<td>ICT</td>
<td>Information and communication technologies</td>
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<td>IFI</td>
<td>International financial institutions</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>IPA</td>
<td>Investment promotion agency</td>
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<td>JICA</td>
<td>Japan International Cooperation Agency</td>
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<tr>
<td>LIBOR</td>
<td>London inter-bank offer rate</td>
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<td>PPP</td>
<td>Public private partnership</td>
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<tr>
<td>RAHCO</td>
<td>Rail Asset Holding Company</td>
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<td>SEA</td>
<td>Strategic environmental assessment</td>
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<td>SEZ</td>
<td>Special economic zone</td>
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<tr>
<td>SPV</td>
<td>Special purpose vehicle</td>
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<tr>
<td>TANESCO</td>
<td>Tanzania Electric Supply Company Limited</td>
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<tr>
<td>TANROADS</td>
<td>Tanzania National Roads Agency</td>
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<tr>
<td>TAZARA</td>
<td>Tanzania - Zambia Railways</td>
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<tr>
<td>TIC</td>
<td>The Tanzanian Investment Centre</td>
</tr>
<tr>
<td>ToR</td>
<td>Terms of reference</td>
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<tr>
<td>USD</td>
<td>United States dollar</td>
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<tr>
<td>VAT</td>
<td>Value added tax</td>
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Executive Summary

In 2006, the Government of Tanzania adopted a national special economic zone (SEZ) programme which aimed at developing 14 SEZ areas located strategically throughout the country. Bagamoyo SEZ is the first SEZ to be implemented.

A special economic zone (SEZ) is a geographical area that has more liberal economic laws than the typical laws of the country. It is an economic development tool to promote rapid economic growth by using fiscal and business incentives to attract investments and technology.

The master plan consists of 12 chapters. The aim of the master plan is to provide a design tool which effectively and efficiently can guide the physical and economic development of Bagamoyo SEZ. The plan covers an area of 9,800 ha, situated to the south-east of Bagamoyo Town. This area is by judicial decree defined and designated as suitable as a special economic zone.

Chapter 1 provides an overview of the project and an introduction to the SEZ and EPZ programmes. The EPZ (export processing zones) programme promotes export oriented investments in the manufacturing sector. The SEZ programme covers a wider range of allowable activities than the EPZ.

The goals of Bagamoyo SEZ are to attract investments by providing quality infrastructure complemented by an attractive fiscal package, business support services, cluster formation and minimal regulations.

The development of Bagamoyo SEZ takes advantage of the proximity to Dar es Salaam and the access to the trunk road network. Furthermore, the geographical location enables access to the railway network, to the sea and to airport facilities. The economic feasibility study of the establishment of Bagamoyo SEZ revealed that the project was extremely feasible.

Chapter 2 describes existing site conditions and external spatial relations of the site. Bagamoyo SEZ is located about 50 km north of Dar es Salaam and about 12 km south of Bagamoyo Town. The SEZ project area covers 9,800 ha, and approximately 8,000 ha are designated for administration by the Export Processing Zones Authority (EPZA).
The area includes five villages: Kondo, Zinga, Pande, Mlingotini and Kiromo. The total population was estimated to be 11,600 in 2010.

The present infrastructure supports the area’s development potential. Most important is the location of the site along the trunk road between Dar es Salaam and Bagamoyo Town and the location at the coast. The standard of the trunk road is high and it is continuously maintained and extended.

The location at the coast provides opportunity to establish a new harbour that in turn will alleviate traffic through Dar es Salaam harbour. A new harbour will make the area a hub for export and import to and from world markets.

Moreover, the site has close proximity to the railway and a connection will link the area and a new harbour to inland markets. Finally, there are long term plans to establish a new airport to the west of Bagamoyo SEZ.

Current land use in the area is dominated by agriculture, with both food and cash crops, and undeveloped areas which include open swamps and ponds, salt pans, mangrove forest areas, valleys, lowlands, smaller rivers, creeks and the coastal belt. Furthermore, the land use comprises residential areas, public and private institutions, tourism, small commercial areas, salt works and small-scale fishing.

Chapter 3 identifies the potentials and constraints for the Bagamoyo SEZ area.

Among the most important potentials are the close proximity to Dar es Salaam and the location at the national highway to neighbouring countries and the domestic hinterlands. In addition, it is seen as a potential that access to all public utilities can be established relatively easy.

Among the constraints, all necessary on-site infrastructures, including roads, power supply, water supply etc. are inadequate or nonexistent and must be constructed during the transformation of the area. Furthermore, most of the land within the SEZ area is currently used for other activities and most of these will have to be relocated before the project can be realised. EPZA already acquired most of the land during 2012 for the first two phases of Bagamoyo SEZ. The protected coastal zone and other areas with high-quality nature are to be preserved.

Chapter 4 presents the environmental and social impacts identified through a preliminary environmental and social impact assessment. Plausible environmental impacts have been identified as: Impacts on flora and fauna, soil degradation, air quality, noise nuisance, impacts on the aquatic ecosystem, water resources and quality and emissions of greenhouse gasses. Plausible socio-economic impacts have been identified as: Transfer of contagious diseases, encroachment of cultural heritage, enhancement of the local economy and employment, resettlement issues and possible gender recognition.

The likely social and environmental impacts of the master plan are to be further assessed through a full strategic environmental assessment (SEA). In addition, it is recommended that a resettlement action plan (RAP) be prepared.
**Chapter 5** identifies the planning framework for Bagamoyo SEZ and provides a roadmap for the implementation of a master plan. Policies, legislation and regulations relevant for Bagamoyo SEZ, including the Mini Tiger Plan, are introduced and relations to the development of the SEZ described.

A conceptual framework for the planning, design and development of Bagamoyo SEZ is set up. The area is to be developed according to the requirements for a township SEZ and will therefore comprise: Industrial areas, tourist and recreational areas, institutional and administrative facilities, infrastructural facilities (port and railway) and residential areas.

**Chapter 6** presents an overview of Tanzania's economic and demographic development since the mid-1990s as basis for identifying future demands. It is estimated that the population in the area will increase to 75,000 by 2030 if Bagamoyo SEZ is developed.

A 20-year demand forecast for Bagamoyo SEZ under three different scenarios was developed. It shows that estimated land requirements for industrial purposes range from 690 to 3,258 ha. Similar variations are seen for other indicators such as number of companies to be established and jobs created.

The demand forecasts further identified land requirements for the various non-industrial segments (residential, commercial, institutional etc.) amounting to 2,030 ha.

In **Chapter 7** the concept of the master plan is outlined based on a development strategy which focuses on the industrial component and the land use plan, in which the various land uses are outlined in order to a) minimize all land use conflicts and b) optimize the possibilities of interaction between the different functions in the SEZ.

Industrial areas are located to the north of the trunk road. To avoid environmental conflicts between industry and other land uses, a zoning of the industrial areas is incorporated.

The area is designed to be developed in stages and by different developers. A plot-structure is envisaged in order to ensure flexibility and optimal land use.

The plan also recommends a road network with three intersections connecting the site to the trunk road. The internal road network is to be built in a grid formation which minimises the distance between the various industries and exits to the trunk road. The grid formation is also used with regard to the establishment of utilities. The basic principle is to place cables and piping and other utility infrastructure along the roadside.

The entire industrial area will be fenced and gated. This is necessary due to custom regulations and also for security reasons. In connection with the main gates, areas have been allocated for administrative facilities such as customs, police, etc., as well as for commercial centres which can supply trade and service functions. Outside the fenced industrial area, land is allocated for other activities and land
uses, including port and marshalling facilities and railways. Furthermore, the master plan incorporates areas for housing intermingled with recreational areas, tourism, institutions including both the Mbegani Fisheries Institute and the Uongozi Institute, as well as conservation, nature and green spaces.

The site comprises a total area of 9,800 ha and the following types of land use components are planned within in Bagamoyo SEZ:

- Industry and roads in the industrial area: 4,560 ha
- Port, marshalling and rail network: 1,230 ha
- Residential areas: 1,000 ha
- Commercial: 380 ha
- Institutional: 900 ha
- Recreation and tourism: 940 ha
- Open space/traffic areas: 465 ha
- Swamps, pond etc.: 325 ha

Chapter 8 determines the structure and alignment of infrastructure, both the traffic system and the utilities, with focus on the industrial component. Infrastructure is to be coordinated with the development of the site, and it is suggested that the project be divided into phases to match planned development.

An important objective has been to include a mode of transport (modal split) with a high rate of bicycling (and walking) and public transport (bus). The main reason being the limited car ownership in rural areas. Furthermore, the proposed infrastructure ensures an acceptable level of road safety.

The traffic system in Bagamoyo SEZ will be connected to the Bagamoyo - Dar es Salaam trunk road. Internal roads in the area will include primary distributors, district distributors, local distributors and access roads within the designated land uses. A system of footpaths and bicycle lanes are planned along the primary distributors, district distributors and the local distributors.

Connection of the site with utilities (water supply, storm water, wastewater, power supply, telecom and ICT and gas supply) is planned to be constructed in a grid system alongside the main and district distributor roads. In addition, solid waste management and effluent treatment are planned in connection to utilities. Moreover, to the overall infrastructure needed to serve the area, the individual plots in the industrial area should be developed to a point ready to facilitate potential buildings.

Chapter 9 presents a flexible phasing plan for the industrial component, outlining the sequence in which the different sub-areas should be developed over a 20-year period, as well as detailing the industrial component in the first phase in four continuous sections. The phasing of the industrial component is flexible and enables commencement of a phase prior to completion of the previous phase.
Developing Bagamoyo SEZ in phases reflects the desire to locate the early stages as closely as possible to existing infrastructure.

Preliminary cost assessments for construction of infrastructure and utility are presented by phases. The total costs of road infrastructure and utilities are estimated at USD 43 million for phase 1, USD 213 million for phase 2 including a gas fired plant, and USD 60 million for phase 3 of the industrial area. The costs of external infrastructure such as railway, port, airport and trunk roads are assumed to be financed outside this project. Similar cost assessments are made for utilities needed to serve the individual plots.

Suggestions are made on best practice to develop land use through structuring and layout in overall development control guidelines for the industrial component. The guidelines cover: Building use, heights and density, block planning and infrastructure elements (road junctions, road cross sections and parking) as well as open spaces and green areas.

Chapter 10 introduces three basic models for the SEZ development and operation and discusses which of these models is the most suitable for Bagamoyo SEZ. Recommendations are provided for options for developing Bagamoyo SEZ as a whole and, more specifically, the industrial component via public-private partnerships (PPPs). Recommendations are also provided for operating and management arrangements, and guiding principles are outlined for the involvement of the private sector.

Chapter 11 contains a financial model for the development of the industrial component, focusing on development costs and financing methods. The model is based on the assumptions made in the demand scenarios, the land use and infrastructure development, unit costs and the sources of finance.

It is assumed that financing will consist of a combination of government funds and private sector investments (through PPP). Commercial bank loans will only be relevant if a government guarantee is provided and it is combined with grants from various sources.

The financial analysis indicates a reasonable financial viability with a financial internal rate of return (IRR) of 18.5% and 20.3%, respectively, when compensation and resettlement are made at the beginning or postponed in line with demands for plots. The debt service cover ratio DSCR is less than 1.0 in the first three years which may be regarded as critical as additional financial support will be required to cover for the deficits in those years. After the third year, the DSCR increases to over 1.0 ensuring better debt service coverage in the following years.

Chapter 12 presents a scheme for the implementation of the master plan. It provides an overview of recommended actions to be carried out in each of the three phases in order to realise the industrial component, summarizes the estimated need for financial resources and proposes mechanisms to monitor and review the implementation according to key elements of the master plan.
1 Introduction to the Project

This chapter describes the project’s background and includes a brief ‘historic’ introduction, explaining the purpose, vision, mission, objectives and structure of the master plan.

The master plan for the Bagamoyo special economic zone (SEZ) aims to provide a design tool, which can effectively and efficiently guide the physical and economic development of Bagamoyo SEZ.

In accordance with the assignment’s terms of reference, the master plan comprises the following components:

Component 1: Demand forecasts

Component 2: Master planning

Component 3: Infrastructure requirements and cost estimations

Component 4: Environmental and social assessment

Component 5: Financial modelling

Component 6: Development options for Bagamoyo SEZ

Component 7: Implementation/action plan.

The master plan is a synthesis of seven technical papers, each of which deals with one of the above mentioned topics in detail. The technical papers are provided in separate documents.

The terms of reference are attached in Appendix A.

COWI prepared the master plan during the period September 2011 to January 2013. Developing the master plan required consultations with many stakeholders. The minutes from these meetings are provided in Appendix D.
1.1 Background Information

A special economic zone (SEZ) is, at regional level (East African Community), defined as a designated area of land which may, or may not, be a customs controlled area. It is subject to liberal economic laws and on-site administrative regulation, management and services, the benefits pertaining to licensed firms apply; and goods introduced into the SEZ customs controlled area are exempted from duties and taxes. Therefore, a SEZ may exist in many different versions, such as township zones, export processing zones, industrial parks, freeport zones, free-trade zones, tourist and recreational centres, information communication technology parks, science and technology parks, agricultural zones, regional headquarter zones, educational zones and financial service zones.

The national SEZ programme includes development of 14 SEZs located strategically throughout the country. The Bagamoyo SEZ, and its proposed port, is the first SEZ to be implemented and, as such, EPZA’s current flagship project.

Export Processing Zone (EPZ) was established in April 2006 by the EPZ (Amendments) Act No. 3 of 2006 as an autonomous agency. The authority is supervised by the EPZA council and operates under the Ministry of Industry, Trade and Marketing. In 2006, the GoT adopted the SEZ act. The SEZ scheme was part of a strategy to implement the "Mini Tiger Plan 2020" and aimed at fast tracking economic growth and poverty reduction. In April 2008, the GoT decided, following the dissolution of the former Ministry of Planning, Economic and Empowerment, to assign the implementation of the SEZ scheme to EPZA. Since its inception, 28 EPZ investments have been registered and 19 operating licences have been issued. The EPZ program has generated direct employment for 7,500 people and over 20,000 indirect jobs have been created.¹

The total area allocated to the Bagamoyo SEZ is approximately 9,800 ha in size. The site is located about 50 km north of Dar es Salaam and about 12 km south of Bagamoyo town. It is well suited for urban and industrial development as it is relatively flat, dry and vegetation is sparse. The SEZ is located in the Bagamoyo district, which comprises the Kiroma and Zinga wards.

The economic feasibility study, which was carried out in 2009, regarding the establishment of Bagamoyo SEZ, revealed that the project was extremely feasible. Aspects which the study highlighted were the growth of the manufacturing industry, growth of the tourism industry, availability of raw materials, strategic location of the SEZ and access to African and international markets.

¹ Feasibility Study for the Bagamoyo Special Economic Zone, March 2011.
1.1.1 Growth of the Manufacturing Industry
Overall, the industrial manufacturing sector in Tanzania has grown rapidly between 1998 and 2008. Unfortunately, this growth stagnated somewhat due to the global financial and economic crisis of 2009/2010. However, in 2011 this began to change, and the sector is now showing signs of positive growth. This is a positive indication, and it implies that Tanzanian manufacturing industries, concentrated in and around Dar es Salaam City, will continue to grow and expand and, thus, be attracted to Bagamoyo SEZ, which is very close to Dar es Salaam City. The manufacturing industries that are likely to be attracted to Bagamoyo SEZ are those producing food products, beverages, tobacco, textile and leather goods, chemicals, rubber and plastics.

1.1.2 Growth of the Tourism Industry
The tourism industry has also grown rapidly since 2006. The United Nations World Tourism Organization (UNWTO) and the World Travel & Tourism Council (WTTC) report that the tourist industry in Tanzania has a tremendous potential for further growth. This increase is attributed to initiatives taken by the government in collaboration with the private sector to promote the country’s tourist attractions in both domestic and international markets, particularly within the European countries and the United States of America. Bagamoyo is, in its own right, a heritage centre and of importance both historically and culturally to tourism in Tanzania. Developing Bagamoyo SEZ will provide the means to support additional tourist related activities in the Bagamoyo Region and in Tanzania by creating favourable incentives for investors and by easing bureaucratic requirements.

1.1.3 Resource (Raw Materials) Endowments
Tanzania produces large quantities of agricultural produce, but most of these are exported as raw material with a negligible added value and minimal earnings to the country. These products include coconut, cashew nuts, green coffee, cassava, maize, sweet potatoes, potatoes, tobacco leaves, sugar cane, rice, sorghum, cow milk, indigenous goat meat, fresh vegetables, horticultural produce (tomatoes, cabbages, onions, carrots, chillies etc.), floriculture produce (apple, mangoes, pineapples, oranges, etc.), honey, beans, groundnuts in shell, indigenous cattle meat and indigenous chicken meat. This inability to produce a finished, exportable product means that Tanzania is losing employment opportunities, and that profit and possible earnings are limited to the farmer and immediate stakeholders. Establishing a SEZ in Bagamoyo will likely contribute to a better utilization of the area’s resources and increased earnings on agricultural produce from Bagamoyo and other parts of the country.

1.1.4 Access to Market
Tanzania has agreements with several trading blocs such as the East African Community, the Cotonou Agreement, the South African Development Community (SADC) and the African Growth and Opportunity Act (AGOA). This gives access to a huge market, particularly for items that could be produced at Bagamoyo SEZ.
Tanzania is part of the EAC, an intergovernmental organisation comprising five East African countries: Burundi, Kenya, Rwanda, Tanzania, and Uganda, which represent a significant market for Tanzanian products. Movement of goods between these countries is free of cross border tariffs and allows the countries access to one another’s markets. Bagamoyo also provides sea access to landlocked countries that share Tanzanian borders. These countries include Malawi, the Democratic Republic of Congo and Zambia, and represent a large market for Tanzanian products, more specifically, products from Bagamoyo SEZ.

Potentially, there is a market for Tanzanian products within the European Union as well as its Africa Caribbean Pacific (ACP) associates due to the partnership agreement signed in Cotonou, Benin. The agreement replaced the Lomé Convention, which governed the EUACP development cooperation from 1975 to 2000. The new partnership agreement governs the EU-ACP cooperation over the next 20 years. Economic and trade cooperation constitutes one of the key pillars of the agreement. In line with the new agreement, EU-ACP trade will build on the so-called economic partnership agreements (EPA), which basically consist of free-trade areas (FTAs) between the EU and groups of ACP countries, of which Tanzania is a member.

There is a potential market for Tanzanian products within the current member states of the SADC, which encompasses Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, the United Republic of Tanzania, Zambia and Zimbabwe. The SADC agenda is based on principles such as development orientation, subsidiarity, market integration and development, facilitation and promotion of trade and investment, and variable geometry.

There is a potential market for Tanzanian products in the United States due to the approval given by the U.S. Congress in May 2000 on legislation known as the African Growth and Opportunity Act, or AGOA (Title I, Trade and Development Act of 2000; P.L. 106–200). This legislation aims to assist the economies of sub-Saharan African countries and to improve economic relations between the United States and the region. AGOA grants dispensation for certain goods with regard to quota and duty-free entry into the United States, which allows Tanzania the benefits under the Generalized System of Preferences (GSP) programme. Notably, the AGOA expanded market access for textile and apparel goods imported into the United States from eligible countries. This provides Tanzania, and in turn Bagamoyo SEZ, with an opportunity to access this huge market.

### 1.1.5 Strategic Location of Bagamoyo SEZ

Bagamoyo SEZ' geographical location, its proximity to Dar es Salaam, access to the trunk road network, proximity to the railway, access to the sea and airport facilities, plus available land, makes it a strategically viable proposition.

Its proximity to Dar es Salaam, Tanzania's largest commercial city and financial and industrial centre is advantageous. The high concentration of industry in Dar es Salaam enables Bagamoyo SEZ to attract new industries to the area and at the same
time help decongest Dar es Salaam. Access between the two areas takes place via the Dar es Salaam-Bagamoyo trunk road. Plans exist to widen the road into a four-lane highway. Today, travelling time between Dar es Salaam and Bagamoyo SEZ is about an hour, but the physical distance is only about 50 kilometres. Additional facilities that Dar es Salaam can provide Bagamoyo SEZ include access to the international airport and port facilities.

Bagamoyo SEZ is connected to the rest of the country by a trunk road network. This includes the Bagamoyo-Msata road (64 km), the Bagamoyo-Saadani-Tanga road (178 km), the Tanga-Horohoro road (65 km) and the Dar es Salaam-Bagamoyo road. This trunk road network connects Bagamoyo not only to the rest of the country but also to the neighbouring East African countries of Kenya, Uganda, Burundi and Rwanda as well as other neighbouring countries such as Mozambique, Malawi, Zambia and the Democratic Republic of Congo.

Bagamoyo is connected to the Tanga-Moshi railway at Kikoka, which is about 27 km from Bagamoyo. This railway allows Bagamoyo access to the Tanga, Kilimanjaro and Arusha Regions. There are plans to extend this railway to Bagamoyo SEZ. It is also possible to use the Tanzania-Zambia railway line, which can be accessed at Dar es Salaam about 52 km from Bagamoyo SEZ. The two railway networks enable transportation of raw materials to Bagamoyo SEZ as well as transportation of finished products from Bagamoyo SEZ to other regions.

The Indian Ocean forms one of Bagamoyo SEZ's borders, giving easy access to the sea. An area for the construction of a new harbour, under the auspices of the Tanzania Ports Authority, has been earmarked by the Tanzanian Government. There are also plans for an international airport close to Bagamoyo SEZ, and an area has already been earmarked for its development.

Large tracts of vacant land are available in the area as no significant onsite developments have been undertaken. Thus, Bagamoyo SEZ presents a virgin area, where modern planning concepts can be used to develop the SEZ with contemporary facilities. Another advantage is the flat terrain, which reduces development costs.

### 1.2 Purpose of Special Economic Zones

The purpose of a SEZ is to promote rapid economic growth by attracting foreign and local investments through provision of quality infrastructure complemented by an attractive incentives package, business support services, cluster development and minimizing as many obstacles as possible. The Government of Tanzania (GoT) has prioritized the establishment of SEZ areas in the country to promote and attract investments and boost industrial development in order to make Tanzania the industrial hub in Africa. Thus, the development of SEZ areas is included in Tanzania's development strategy for 2025.
1.3 Vision, Mission and Objectives of the Bagamoyo SEZ

The vision is to make Bagamoyo SEZ a first choice for investment and trade in East Africa with a world-class infrastructure and streamlined services, thereby contributing to Tanzania’s economic growth.

**Vision**

Based on the analysis and review of potential strengths in the creation of Bagamoyo SEZ, the vision is to:

› be the first flagship for industrial development in Tanzania and a model for future SEZ areas in the country
› aim to create an economic corridor between Bagamoyo and Dar es Salaam
› be East Africa's preferred coastal logistics and manufacturing hub for the economic and social benefit of Tanzania and its neighbouring countries
› be Tanzania's first multi-purpose, low-carbon industrial zone, targeting foreign and domestic companies that are seeking modern, reliable and environmentally friendly infrastructure, utilities and facilities within a streamlined business environment
› be able to compete with regional and global zones and industrial platforms around the world
› attract new firms and new types of businesses and industry to Tanzania
› create new employment opportunities for Tanzanians
› invest in the Bagamoyo Region by upgrading the on-site and off-site infrastructure and utilities
› provide a wide range of economic zone facilities that will attract and accommodate existing and future target markets in a cost-effective manner
› encourage sustainable and environmentally friendly development.

**Mission**

The mission of Bagamoyo SEZ is to foster economic growth using diverse investment opportunities while promoting production for domestic and international markets, import and export opportunities, trade and tourism and by generating employment utilizing the SEZ' advantage of its location and ability to attract both foreign and domestic investments.

**Objectives**

The objectives of Bagamoyo SEZ are:

› Attract capital and advanced technology
› Generate additional economic activities
› Promote investments from domestic and foreign sources
› Create employment opportunities
› Develop infrastructure and utilities
1.4 Structure and Summary of the Master Plan

The following provides an overview of the structure of the report with a short summary of the different chapters.

Chapter 1 provides an overview of the project: the purpose, the vision, the mission and the objectives.

Chapter 2 describes the present site conditions in the area, which form the background for the planning of the area. The description includes physiographical features, spatial conditions and current land use and facilities.

Chapter 3 describes both potentials and constraints, which have to be considered in the planning of Bagamoyo SEZ.

Chapter 4 describes the environmental and social impacts, which may arise when developing Bagamoyo SEZ.

Chapter 5 provides the planning framework and policy rationale for Bagamoyo SEZ, including the legal framework and other planning initiatives in the Bagamoyo area.

Chapter 6 identifies future demands for the Bagamoyo SEZ site over a 20-year period. It also describes the methodology used and evaluates demand forecasts for land requirements in relation to industrial and non-industrial uses within the site.

Chapter 7 presents a master plan concept with an overall picture of the different functions throughout the entire Bagamoyo SEZ area. This concept forms the basis for the future land use plan. In the future land use plan, the location of the different functions are outlined together with a development strategy, which focuses on the industrial component.

Chapter 8 describes the infrastructure for both traffic systems and utilities.

Chapter 9 includes a flexible phasing plan, prepared for the industrial component, outlining the sequence in which the different sub-areas should be developed over a 20-year period, as well as detailing of the industrial component in the first phase.

Chapter 10 discusses and provides recommendations on options for developing Bagamoyo SEZ as a whole and, more specifically, the industrial component via PPPs and operating and management arrangements.

Chapter 11 contains a financial model for the development of the industrial component, focusing on development costs and financing methods.

Chapter 12 is an implementation action plan, which provides an overview of what needs to be done in each of the three phases in order to realise the industrial component of Bagamoyo SEZ.
2 Existing Site Conditions in Bagamoyo SEZ

This chapter describes existing site conditions of Bagamoyo SEZ. It explains both external relations and internal conditions. It provides the basis for decision making and planning of the area.

In order to prepare the Bagamoyo SEZ master plan, a thorough and extensive assessment was undertaken of existing site conditions, location, and the potentials and constraints in the region and at the site.

2.1 Location and Size of Bagamoyo SEZ

Tanzania is located on the East African coast, centrally in the East African network of nations and with good connections to the Asian continent.

![Figure 2.1 Location of Tanzania in Africa](image)

Tanzania has a long stretch of coast between Kenya to the north and Mozambique to the south. The port of Dar es Salaam is the largest port in Tanzania, and in terms of distribution it is centrally located in relation to other countries in East Africa: Zambia, Burundi, Malawi, Rwanda, Uganda, Zimbabwe and the eastern part of the
Democratic Republic of Congo, and to the Asian continent by sea. The distance from Dar es Salaam/Bagamoyo SEZ to South Africa is about 2,700 km and there is about 3,800 km to the Gulf, about 4,500 km to India and about 6,700 km to Europe.

Pwani Region

Bagamoyo SEZ is located in the coastal zone of the Pwani Region. The coastal region is in the eastern part of Tanzania mainland, and a large part of the region is situated along the Indian Ocean coastal belt. The Pwani Region is made up of 6 districts and comprises 7 councils. The additional council is Kibaha Town.

In terms of distance, the region is near to Dar es Salaam City. As such, it is accessible to market of any product.

The region covers an area of 33,539 km², which is approximately 4 per cent of Tanzania mainland. According to the 2002 Tanzania National Census, the population of the Pwani Region was 889,154 and has doubled since 1967. Compared with other regions in Tanzania, the population increase has been relatively low. Among the possible reasons, a high rate of rural-urban emigration to Dar es Salaam City is an important contributing factor.

About 75 per cent of the regional economy comes from the agricultural sector.

Bagamoyo District

Bagamoyo District is one of six districts in the Coastal Region (Pwani) located in the northernmost part of the region. The historical Bagamoyo Town, which is the district headquarters, is located 65 km north of Dar es Salaam City.

The Bagamoyo District borders on the Morogoro Region to the west, the Tanga Region to the north, the Indian Ocean to the east, the Dar es Salaam Region and the Kibaha District to the south. According to the 2002 census, the population in the Bagamoyo District totalled 228,967 residents and comprised 50,359 households.
The main economic activities in the Bagamoyo District include agriculture, fishing, marine culture (i.e. sea weed farming and prawn farming), trade, commerce, and tourism. Although these economic activities have evolved, they are small-scale and lack scope. There are, however, a few exceptions: the Bagamoyo area has become an important cultural and recreational centre with access to beaches and a busy conference/tourist industry. Bagamoyo Town, more specifically the Lower Bagamoyo District hosts training colleges for tourism. The Bagamoyo Institute of Tourism (BIT) provides training for tour guides, driving, hotel management and administration as well as foreign language courses. The Endemic College of Tourism opened a few years ago and offers a certificate programme in hotel management and tourism. New initiatives in industrial development have in recent years resulted in the establishment of the Kamal Industrial Estate, close to Bagamoyo SEZ.

Bagamoyo Town is also known as the ‘arts capital’ of Tanzania. The biggest event of the year is the annual Festival of Arts and Culture when thousands of people come to enjoy performances spread over several days.

In the past decade, the Bagamoyo area has become an important cultural and tourist hub along the coast of Tanzania. This transformation has both created economic and development opportunities.
Figure 2.4 Location and delimitation of Bagamoyo SEZ.

Location and size

Bagamoyo SEZ, as shown in the map above, is located along the coast, about 50 km north of Dar es Salaam and about 12 km south of Bagamoyo Town. Bagamoyo is the former capital of the German colony of German East Africa. Dar es Salaam is the largest city in Tanzania and the former capital. Bagamoyo SEZ is well situated in terms of accessibility to qualified labour, and is enriched by a long cultural history. The SEZ project area covers approximately 9,800 ha. Of this area, 8,000 ha are designated for administration by EPZA, the remainder is allocated for other authorities such as the Tanzania Port Association, the Uongozi Institute and the Mbegani Fisheries Institute.

2.2 Topographic Features

Climate

Tanzania's coastal zone is tropical with temperatures averaging about 27°C (81°F), rainfall varying from 100 to 193 cm (40 to 76 in) primarily during the period from March to June, and is characterised by high humidity.

Topography

Within the Bagamoyo SEZ area, a variety of topographical conditions can be found. The first observation is the Indian Ocean coastal belt, which dominates the region and extends from Bagamoyo District to Rufiji District to the south.

The topography is characterized by gently undulating plains covered with low, sparse vegetation and scattered with palm trees. The area is relatively flat; the highest point is 40 metres above sea level, and lies in the southern region near Kiromo and Zinga. Within the area, the local terrain varies more than five metres and the elevation decreases towards the coast.

There are valleys to the north-west of the area. The highest terrain is located in the southern part of the area. The area, up to 20 metres above sea level, contains swamps and ponds. Three rivers or streams run through the area: Mkuza, Pimbini and Nyanza to the north. These are filled during the rainy seasons, but empty relatively quickly into the ocean.
The coastal area is plain along the shoreline. The shoreline is characterised by unspoiled beaches and bays, and the shoreline differs at low and high tide. Inland areas near the coast are flooded at high tide. The small strip of land/island of Chaza La Mwinshomvi just off the coast forms a closed water area and opens to flow from the north. At the coast, the elevation is low with lush vegetation. The area closest to the coast and towards the east is characterized by soft and wet ground, and the lowest areas are frequently flooded.

Geology

Geologically, the area is stable with no threat of earthquake or volcanic activity. Except for swamps along the coastal zone, the ground is solid and suitable for building construction.

2.3 Population and Demography

Based on the 2002 national census, Bagamoyo is the most populated district in the region with a population of 228,967 corresponding to 26 per cent of the total regional population.

The district population had a 99 ratio of males to females and an age dependency ratio of 82\(^2\). The literacy rate in the district was 57 per cent, which is almost equal to the regional level of 54 per cent, but somewhat lower than the national level of

\(^2\) The percent of youths aged less than 15 years plus the percent of persons aged 65 years and above divided by the percent of persons aged 15-64 multiplied by 100
The literacy rate is the percentage of people with the ability to read and write.

According to the District Social Survey of 2010, the population in Bagamoyo District was estimated at 280,007 in 2007.

The SEZ includes five villages: Kondo, Zinga, Pande, Mlingotini and Kiromo. Population and trend projections for the region, if the SEZ is not established, are based on the area percentage included in the wards and an annual growth rate of two per cent.

The total population of Bagamoyo SEZ is thus estimated to be 11,600 in 2010 and 18,200 in 2030 if the SEZ is not established and no other major measures are taken to develop the area.

The population is an important development resource. It provides both a labour force and consumers. Hence its size and distribution is an important parameter for economic development.

The distribution of population by broad age groups shows that both the Pwani Region and the Bagamoyo District have a relatively large proportion of elderly people (ages 65 +) and a relatively low proportion of people less than 15 years.

### 2.4 Infrastructure Linkages

Even though the majority of the population in the district relies on road transport, the level of road services can be quite poor during the rainy season, albeit trunk roads form 20 per cent of the road network in the district. Railways only cover a small part of the district with four railway stations.

The Bagamoyo SEZ site is located along the trunk road between Dar es Salaam and Bagamoyo Town. The road is a two-lane paved road with approximately 1,500 vehicles/day near Bagamoyo and 20,000-30,000 vehicles/day near Dar es Salaam\(^3\). The road between Msata and Bagamoyo is at present an unpaved/untarred trunk road under reconstruction with 200 to 400 vehicles/day. This road connects Bagamoyo to the north/south corridor. In addition, the area is connected by the unpaved regional roads: the Makurunge-Saadani-Pangani-Tanga road and the Makurunge-Mlandizi road.

Plans exist to improve a number of trunk roads in the area which will directly affect this project, including:

- upgrading of the Msata-Bagamoyo road (64 km) to bitumen standard – ongoing
- widening of the New Bagamoyo road (Mwenge-Tegeta, 12.9 km) to four lanes – ongoing

\(^3\) Traffic counts from TANROADS
feasibility study and detailed design of the Bagamoyo (Makurunge)-Saadani-Pangani-Tanga road

ring road around Dar es Salaam from the airport to the north of Dar es Salaam.

On-site roads

The planned SEZ area is, today, served by a number of district and feeder roads. The road network within the Bagamoyo SEZ area is mainly gravel and/or sandy roads in poor condition. The trunk road and the district road from Zinga to the Mbegani Fisheries Institute are the only paved roads. The latter is paved with asphalt but is in poor condition. According to the district authorities, there are no plans to develop or improve the district roads in the area.

Port and rail

Today, Bagamoyo is not served by rail. The nearest rail line is the line towards Tanga/Arusha 25 km west of Bagamoyo, which is no longer in operation. There is no airport (apart from an airstrip) and only a small port handling a few dhows. However, within the SEZ, plans have been made to establish both a port and a rail connection (including marshalling and shunting yards and rail tracks) in conjunction with the port. The port is assumed to be established by 2018/2020, as suggested in the port feasibility study.

Airport

An airport is planned near Zinga, just outside the SEZ area, but no sooner than in 2026. However, more details will be available once the pre-feasibility study for a new airport is finalised.

2.5 Existing Land Uses and Land Tenure

Commercial areas

Commercial and shopping activities are at present limited and are concentrated along the trunk road through the Zinga and Kiromo villages, and within the village areas. They include a few handicraft shops, small grocery and utility shops. The area also has petrol stations and some hotels.

Mbegani Fisheries Institute

Mbegani Fisheries Institute is located at the coast in the northern part of the SEZ area. It offers training courses in boat building, marine engineering, fish processing, and marketing and quality control. The institute’s compound comprises institutional buildings, training facilities and residential houses for employees and their families. A small school for the families' children is located within the area. The Mbegani Fisheries Institute represents itself as a small independent community. It is expected that the Mbegani Fisheries Institute will be integrated into the SEZ in close proximity to the planned port and therefore will have to be partly relocated.

Salt works in Kondo

A salt works is located on the coastline to the east of Kondo village. The salt works comprises a number of small one-storey buildings. The complex contains a number of vegetable gardens and salt works facilities. The salt works is run by the Bagamoyo prison and will be preserved in the master plan.
Agriculture

More than 80 per cent of the people in the project area are employed in the agricultural sector. Food crops include maize, cassava and paddy. Cash crops grown in the project area are coconut, cashew nuts and mango.

Photo 2.1

The coconut farm near Kiromo village.
The production of coconut and cashew nut has decreased in recent years due to poor agricultural methods and difficulty in obtaining pesticides and fertilizers. This has had a negative impact on the agricultural production and the general income of farmers as most depend on agriculture for their livelihood. Some villagers supplement their income through ‘off-farm business’ after harvesting/planting. Other means of support in the project area include livestock/small holding, beekeeping and petty trade.

Fishing

The coastline of Bagamoyo SEZ covers about 100 km. The fishing sector is dominated by small-scale fishing, which accounts for more than 96 per cent of the total catch. It is estimated that the majority of the population residing in the coastal villages of Mlingotini, Pande and Kondo depend on fishing for their livelihood. The Mbegani Fisheries Institute stimulates growth in fishing activities in the area, as it provides training in boat building, fish processing and marketing.

Photo 2.2 Mbegani Fisheries Institute. The institute's boat and fishing facilities.

Photo 2.3 Photo from Mbegani Fisheries Institute. Administration buildings.
The area is characterized by gently undulating plains covered with low, sparse vegetation, scattered with palm trees. The most important trees in the area are coconut trees, mango trees, cashew nut trees, mwarobaini, ebony and mangrove/mikoko. Another characteristic of the landscape is the valleys along the creeks and rivers, which have more varied vegetation.

The coastal belt is covered by mangrove swamps as well as mangrove trees, and the soil type is sand, sandy loaming and clay.

Undeveloped areas include open swamps and ponds, salt pans, mangrove forest areas, valleys, lowlands, smaller rivers, creeks and the coastal belt. These are called undeveloped areas because they are not suitable for construction of housing, and most of them are recommended for conservation.

The landscape has a number of important structures for the future transformation of Bagamoyo SEZ, enriching the area with natural quality and value.

Animal species identified in the area include wild birds, deer, monkeys, dogs, livestock, snakes etc. A few marine organisms are found in mangrove coastal areas, which harbour a variety of aquatic organisms – some of which are commercially valuable species such as prawns, crabs and fish. Women and children collect shellfish species for food in mudflats/sand flats and in mangrove areas during spring tides.

The total area of nature and undeveloped land is about 1,200 ha.

Three categories of land exist in the area; namely village land, general land and reserved land. The lands designated for the Bagamoyo SEZ area are individually owned under the local tenure system. Certificates granting right of occupancy, as required under the Land Act no 5 of 1999, have not been issued. Many villages have no land use plans.

According to the 2002 census, there were more than 50,000 private households in Bagamoyo District with an average household size of 4.5 persons. The average household size for Tanzania in rural areas was 4.9 persons.

There are five main villages in Bagamoyo SEZ, namely:

- Zinga, located along the Dar es Salaam-Bagamoyo road (trunk road)
- Kiromo, located along the Dar es Salaam-Bagamoyo road (trunk road)
- Pande, located near the coast
- Kondo, located by the coast
- Mlingotini, located by the coast.

Mlingotini is the most populated village in the area. It accommodates about 2,700 people in an area of 1,483 ha, equalling a population density of 1.82 persons per
ha. The least populated village is Kiromo, which accommodates about 1,922 people in an area of about 4,032 ha, equalling a population density of 0.48 people per ha.

The five villages have been developed without the guidance of either a general planning scheme or detailed planning schemes. There is no formally planned road network or housing development. Most of the houses are constructed from traditional building materials of what in most cases are referred to as 'temporary building materials' such as mud and poles for walls and thatch for roofing. Some are constructed using modern building materials; in most cases referred to as 'permanent building materials' such as cement blocks for walls and corrugated iron sheets and tiles for roofing.

In the Zinga and Kiromo villages most of the buildings are concentrated along the Dar es Salaam-Bagamoyo trunk road. These villages are therefore characterized by a linear pattern of settlements development. In Kondo village, most of the houses are concentrated along the route running parallel to the Indian Ocean, again characteristically linear in shape. This, however, is not the case in the Mlingotini and Pande villages where the houses are developed through radial patterns.

The total area allocated for residential purposes amounts to about 1,060 ha, which is about 10.81 per cent of the Bagamoyo SEZ area. The total Bagamoyo SEZ area is approximately 9,800 ha.

Just outside the Bagamoyo SEZ area to the south lies the Karege village, and to the north lies a small part of the Kitopeni village.
2.7 Social and Community Facilities

**Education**
All five villages in the area have primary schools. Secondary schools are located at ward level in Zinga and Kiromo wards. The schools are basic and not all have necessary facilities such as desks, toilets, books, classrooms, dormitories, laboratories and teachers. The teacher to pupil ratio is low because of a shortage of teachers.

**Health care**
The Bagamoyo District is currently serviced by one district hospital, five health centres and 49 dispensaries. On average, each health centre and dispensary serves about 20,905 and 4,673 people, respectively.

**Recreational**
The coastal area of the site is of great recreational importance for both visitors and residents in the area. There is a hotel/bungalows on the coast and a bigger hotel at the trunk road near the western part of the site. The beach and the mangroves are also used for recreational purposes. The Mbegani Fishery Institute has a social club at the beach.

2.8 Public Utilities

**Water**
New water and sanitation facilities are required for Bagamoyo SEZ. At present, the on-site infrastructure for the water supply system is in poor condition or non-existent. More details are provided in Technical Paper 3.

A 54" diameter DAWASA concrete pipeline, which serves northern Dar with water from the Lower Ruvu River, is located close to the project area. Parts of the project area are also served by this pipeline. The pipeline and groundwater should provide enough water for the area. However, no plans exist to improve the water system.

The water supply system is to be a combination of the DAWASA pipeline and groundwater resources with motorised pumps to meet the domestic, commercial, industrial and institutional water demand. The industrial water demand will depend on whether dry or wet industries are established.

**Storm water, wastewater and solid waste**
New storm water, wastewater, industrial water and solid waste facilities are required for Bagamoyo SEZ. Currently, no sewer systems for off-site sanitation exist in the area (thus, no effluent treatment plant), and existing sanitation consists of septic tanks and soak-away pits. A storm water channel is found along the road to the fishery institute.

Currently, there are no plans to improve wastewater, sanitation or storm water facilities, or effluent treatment plants and solid waste treatment.

**Electric and telecom**
There are several sub-stations for feeder power lines to and within the Bagamoyo Region. Bagamoyo Town is connected to the national power grid with 33 kV lines extended from Dar es Salaam and Mlandizi. The power supply is at present not particularly reliable with only manual change-over systems in case of problems and no automatic change-over systems. The existing power system will not meet the demands necessary to operate a SEZ and a port. At present, there are no gas pipelines in the area.
The area is without street lighting and fencing and there are no plans to establish this at the moment. The area offers various telecommunication options and several mobile phone service providers have erected towers. Thus, telecommunication connections may be arranged with established service providers.

Plans exist to provide Kamal Industries with a 2.5 MVA power line, but no specific plans concerning the SEZ, the port or airport etc. The area (including port) may require more than 50 MVA. There are no specific plans to construct sub-stations; however, 33/0.4kV and 11/0.4kV sub-stations can be constructed, on request by EPZA, when needed.

2.9 Economy and Employment

Labour force

Based on the 2002 census, about 228,967 residents lived in Bagamoyo District, and according to the District Social Survey of 2010 the population in Bagamoyo District was estimated at 280,007 in 2007.

As such, the Bagamoyo area offers a significant advantage to investors with regard to labour. This labour force is currently a mixture of skilled and unskilled labour. Given the diverse types of industrial sectors proposed for Bagamoyo SEZ (ranging from light and medium industries to tourism and hospitality industries), there will be vast opportunities to train local labour and in turn improve their economic conditions in the future.

An economically active population comprises all people, male or female, available for work during a specifically defined period. They form a labour force for the production of goods and services.

Employment rate

The working population aged 10 years and above, based on the data from the 2002 population and housing census for the Pwani Region, was 421,727 persons. When looking at regional employment differentials, the Pwani Region had the second lowest number of employed people aged 10 years and above.

The Bagamoyo District had a net enrolment rate of 60 per cent, which is close to the average for the region.

Job opportunities

The agricultural sector is dominant in both Pwani Region and Bagamoyo District as well as within Bagamoyo SEZ. Few other employment opportunities exist in the area and no educational opportunities besides the Mbegani Fisheries Institute.

The population in the rural areas is predominantly made up of very young and/or very old people compared to urban areas. This is due to the migration of young and employable persons from rural areas to urban areas.

2.10 Gender and Culture

It is anticipated that EPZA will take on a role to minimize gender inequalities and expand opportunities for women, men and other underrepresented groups to participate in and benefit fully from the SEZ project interventions.
The proposed project must ensure that rural women, who are part of the rural infrastructure, will be adequately involved at all levels of the project planning and implementation.

There are cultural/historic heritage/items of significance on the SEZ site and surrounding area. These areas have spiritual and biological values that need protection and conservation.

Different tribes and clans have different beliefs and different ways of respecting and honouring their ancestors. Likewise, there are taboos, traditions and customs including sacred burial sites and protected ritual sites, which are singled out for historical and cultural ritual performances. Disturbance or disrespect of these may violate religious beliefs. For example, graveyards were noted in every village visited (Pande, Kondo, Mlingotini, Zinga and Kiromo). These graveyards will be affected by the construction of SEZ Bagamoyo as they are close to households, and there are no clearly defined burial places or cemeteries.
3 Potentials and Constraints

This chapter identifies the potentials and constraints for the Bagamoyo SEZ area. It forms the basis for determining future land use and establishing the master plan.

3.1 Potentials

<table>
<thead>
<tr>
<th>Location of the site</th>
<th>The site is strategically located. It is in close proximity to Dar es Salaam and on the national highway to neighbouring countries and the domestic hinterlands.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of land</td>
<td>At 9,800 ha, the site is ideal for urban development. The area is relatively flat, dry and has minimal vegetation and therefore requires minimal site preparation before urban development can be carried out.</td>
</tr>
<tr>
<td>Accessibility</td>
<td>The area is easily accessible for all significant modes of transport. The main road between Dar es Salaam and Bagamoyo runs through the area and provides easy accessibility for cars and trucks. Parts of the coastline within the designated area reach vast depths and are suitable for large port structures, which can constitute an important economic activity as wells as provide a port of departure for the region's industry. Finally, connections to the main railway network, which runs approximately 25 km south of the area, can relatively easily be constructed, and an airport can be constructed on the flat areas south of the main road. The distance to the airport of Dar es Salaam is fairly short.</td>
</tr>
<tr>
<td>Quality of nature and culture</td>
<td>The area has both natural and cultural potential, which could promote tourism in the region. The natural qualities are concentrated around the coastal areas with beaches and mangrove forests as well as green tracts and streams running through the area. The cultural heritage revolves around the Kaole ruins northwest of the project area. This already attracts tourists and several hotels operate in the SEZ area.</td>
</tr>
</tbody>
</table>
Proposed projects

Massive interest has been shown in the Bagamoyo SEZ project. As such, EPZA has already received proposals or expressions of interest from investors. Some of the key initiatives for the site are:

› a new seaport at the Bagamoyo site
› a proposal for the establishment of a university in the western part of the area
› numerous proposals for hotel development along the beach near Kondo
› a new airport in the long term

Roads

At this juncture, JICA is financing a 12 kilometres upgrade of the New Bagamoyo Road from Dar (Mwenge) to Tegeta. The new road will be a four-lane highway. The project began in early 2011 with expected completion in 2013. These improvements will reduce the current traffic congestion and pressure, allowing door-to-door service from Bagamoyo SEZ to Dar es Salaam in 30 to 40 minutes.

TANROADS is undertaking the following road improvement projects in and around Bagamoyo SEZ:

i) An upgrade of a 64 kilometres stretch of the Bagamoyo-Msata Road to bitumen standard. The current upgrading of the Msata-Bagamoyo road to bituminous standard will open up Bagamoyo to the northern circuit (the Tanga and Kilimanjaro regions). Currently, large buses use the Morogoro road via Chalinze and then proceed to the northern circuit.
ii) Feasibility study and detailed design of Bagamoyo (Makurunge)-Saadani-Pangani-Tanga road (178 km). This will provide easy access to Saadani National Park.

All these improvements will reduce vehicular operating costs and travel times to attract more investors to Bagamoyo SEZ.

Access to water: An expansion of the lower Ruvu water treatment plant in Bagamoyo is planned. The project is implemented by the Dar es Salaam Water and Sewerage Authority (DAWASA). The completion of this project will enable DAWASA to cope with an ever rising water demand in Dar es Salaam City and adjoining towns like Bagamoyo.

Access to energy: It is proposed to place a natural gas pipeline along the coastline to connect the Mkuranga gas field, the Kiliwani north gas field, the Songo Songo gas field and the Mnazi Bay gas field. The first two projects are newer finds and can be utilised to meet the energy needs of Bagamoyo SEZ.

Access to sea: On the one side, the Kiromo and Zinga wards in Bagamoyo, where the SEZ is to be located, border on the Indian Ocean, giving Bagamoyo sea access. In the near future, there are plans to use a ferry to transport people and goods from Bagamoyo to DSM. This will attract investors to Bagamoyo SEZ while reducing pressure and congestion on the Dar es Salaam-Bagamoyo road.

Telecommunications: The project area has excellent telecommunication networks, receiving service from four providers: government-owned Tanzania Telecommunication Company Limited (TTCL) and three privately-owned mobile providers (Vodacom, Airtel and Tigo&Zantel).

Banking industry: Major banking services and other financial services are available in Dar es Salaam, which is within close proximity to the site. In addition, the National Micro-finance Bank (NMB) has two branches (Bagamoyo and Chalinze). The recent opening of the CRDB bank in the area will make it easier to access financial services, as it will no longer be necessary to visit Dar es Salaam for some financial services. NMB has introduced ATMs and another service known as NMB mobile, which enables customers to access various banking services through their mobile telephones without visiting a bank. Other ATM machines in the area are owned by the National Bank of Commerce (NBC).

3.2 Constraints

Existing land uses: The proposed Bagamoyo SEZ site currently has a number of informal settlements, i.e. five villages and pockets of industry, farming, workshops and fishery facilities. These will have to be relocated before the project can be realised.
Lack of infrastructure  The area has little infrastructure that meets a standard adequate for a special economic zone. All necessary infrastructure, roads, power supply, water supply, etc. must be constructed during the transformation of the area, and therefore developing infrastructure is a main issue in the following chapters.

Large institutions  The Mbegani Fisheries Institute is located in the area, which is to house the future port. The institute should be relocated in order to accommodate the port facilities. Other locations within the area might be suitable for the institute. However, access to the sea and the port is crucial for the institute.

Salt farms, which are located in the coastal area to the north east of the SEZ, do not quite fit in with the future development plans for the area, particularly in regard to tourism. If this area is to be developed, special consideration must be given to construction of buildings in swamp areas or, alternatively, to how swamp areas can be used in relation to tourism.

Landscape  Rivers, valleys and swamps are constraints to infrastructural and land development in the area. However, these are located on the outskirts of the chosen area, and development can be planned to minimise any difficulties. The valleys can form natural division zones between the various functions or green belts and buffer zones of the SEZ.

Coastal area  Particularly in the coastal area, some zones are protected and cannot be used for development. A 60 metres wide coastal zone is protected and so are the mangrove forests. A coastal management plan exists that must be respected.
Land acquisition

At the moment most of the land in the SEZ area is used for other activities. This means that EPZA will have to acquire the land for the project. In the first six months of 2012, EPZA acquired most of the land for the first two phases of Bagamoyo SEZ.

When the land is taken over by EPZA, compensation must be paid to the former users. This is included in the financial model described in chapter 11.

3.3 Possibilities to turn Constraints into Potentials

In the planning process for Bagamoyo SEZ, these constraints must be challenged.

Some of the listed constraints can be turned into new potentials when seen from a development perspective. The salt ponds and the swamps are a constraint in terms of developing land for buildings, but it can be turned into a new planning potential if they are seen as a tourist attraction.

Rivers and valleys are seen as a barrier for developing an area, but it can be turned into a high-quality recreational area for the neighbouring activities, and the protected areas that cannot directly be developed can serve as important biotopes for wildlife and human research.

In chapter 7, which deals with the master plan concept and future land use, this issue will be addressed.
4 Environmental and Socio-Economic Impact

This chapter presents the environmental and social impacts identified through a preliminary environmental and social impact assessment.

The preliminary environmental and social assessment, detailed in Technical Paper 4, presents a description of the geographical limits, proposed scope and possible parameters which should be considered when deciding on whether or not to carry out a full strategic environmental assessment of the master plan for SEZ Bagamoyo. It should be noted that it is not a strategic environmental assessment (SEA), but rather a stringent examination of environmental and social issues which have been identified during this phase and which need further assessment in an upcoming SEA.

In the following, the environmental and social impacts identified as likely are summarised.

4.1 Environmental Impacts

A number of plausible environmental impacts regarding the Bagamoyo SEZ master plan have been identified and are described in the following sections.

4.1.1 Impacts on Flora

During the pre-construction phase, it is unlikely that significant environmental impacts will be experienced in the SEZ area. Clearing of vegetation in preparation of major infrastructure will be at an initial stage. During the construction phase, clearing and grubbing will begin, and will involve the removal of natural vegetative cover such as trees and grasses in order to prepare the area for road construction, residential buildings, industries/factories and warehouses. These earthworks will exacerbate the landscape, causing erosion and soil infertility. Earthworks may encroach on natural areas leading to further destruction of flora and fauna. The project may require tree felling, removal of bushes and shrubs, resulting in bare land tracts within the SEZ project area. Some of the important species that may be affected include: coconut trees (cocos nucifera), mango trees (mangifera indica), cashew nut trees (anacardium occidentale, mwarobaini
(azadirachta indica), ebony (diospyros crassiflor) and mangrove/mikoko (rhizophora mucronata), to mention a few.

![Image of the coastal zone in Bagamoyo SEZ]

**Photo 4.1** The coastal zone in Bagamoyo SEZ

4.1.2 Impact on Fauna

No endangered species have their habitat in the project area. However, a small forest reserve conservation area is situated at Mbegani, but the reserve is not noted as a refuge for endangered species. Animal species identified in the area include wild birds, deer, monkeys, dogs, livestock, snakes etc. A few marine organisms are found in the mangrove coastal areas, some of which are commercially viable such as prawns (penaeus monodon, p. indicus), crabs (scylla serrata) and fish. Women and children collect shellfish for consumption from the mudflats/sand flats and in mangrove areas during spring tides.

4.1.3 Soil Degradation

Soil degradation is the process where soil is altered and loses its potential, quality and productivity. Impact on the soil will primarily be caused by construction related activities within the SEZ area. Land clearing and earthworks for construction of access roads to material sources, water pipelines, residential buildings etc., will likely disturb and expose the earth surface and soils to runoff water and wind, subsequently leading to soil degradation. In addition, exposed soils can be further altered due to disposal of spoil materials (from road cuts undergoing construction). Rainfall can significantly contribute to soil degradation especially in steep areas. As population and trade increases in the SEZ area, so will domestic and industrial activities. The combination of such human activities may exacerbate
the need for logging, farming, disposal of waste etc., which may significantly contribute to further soil degradation.

4.1.4 Impact on Air Quality
At present, the greater part of the project area is regarded as undisturbed and clean with low pollutant levels and supported by natural vegetation. Although some areas are trafficked, vehicle exhaust emissions do not pose significant environmental issues due to a good dispersion rate and few vehicles. However, a future increase in traffic may contribute significantly to higher levels of air pollution from airborne dust and carbon (CO₂) emissions.

Impact on air quality will be most prevalent during the construction and operation phases. Construction activities, together with the application of heavy diesel machinery such as excavators, compactors, wheel loaders and bulldozers, contribute significantly to air pollution. Equipment, mainly related to the transportation of construction materials, will increase air pollution through exhaust emissions. In addition, gravel surface diversion roads/earth detour roads may also increase dust levels on site and at nearby villages. Other chemical fumes such as carbon dioxide derived from petrol engines may also increase during construction and operation activities. Air/dust pollution could present a health hazard in relation to respiratory diseases among the workforce.

4.1.5 Noise Nuisance
Unwanted sounds, also called noise pollution/nuisance, may occur due to construction and operation activities, particularly from the use of heavy construction machinery and equipment during the construction period. Generally, noise pollution will increase as the traffic volume increases. Noise pollution will occur due to construction, production and transportation activities especially during the construction and operation phases, which can cause both health and behavioural problems. This unwanted noise can affect the physiological and psychological health of local residents and workers.

Noise pollution can cause annoyance and aggression, hypertension, high stress levels, hearing loss, sleep disturbances and other harmful effects. Chronic exposure to noise may cause noise-induced hearing loss. Thus, planned mitigation measures must be implemented to reduce noise nuisance within the project areas.

4.1.6 Impact on Aquatic Ecosystem
The aquatic ecosystem refers to communities of living organisms that depend on each other and their living environment. It is a system of interrelationship between marine organisms and their surrounding environment for survival.

Increased human activity (for instance, during the construction phase) may disturb mangrove shrubs found in most parts of the Bagamoyo coastal area. These shrubs protect coastal areas from erosion, storm surges and slow down tidal water, which is crucial to maintaining rich sedimentary deposits.
4.1.7 Impact on Water Resources
Although water is available in most parts of the project area, water extraction from existing sources during construction and operation phases may create competition with existing users, as large quantities will be needed for both domestic and industrial purposes. This demand may severely affect certain parts where water availability is scarce. Tapping water withdrawal from streams may also cause competition within communities. The lower Ruvu water supply source in the project area may directly, or indirectly, be affected as it is the most used source in the area. Thus, the project may likely impact on water availability and distribution. It is thus advised to use water from independent sources (for instance, bore holes) to avoid interfering with other users.

4.1.8 Impact on Water Quality
Earthworks activities during the construction phase may result in increased sediment loading towards the sea/coastal areas if left unchecked. The sediments tend to increase the turbidity of the water bodies, which can affect the water quality. Additional impacts on the water quality may be caused by contamination through spillage of fuel oil and other industrial chemicals into watercourses or due to improper disposal of such substances especially during the construction and operation phases of the project.

4.1.9 Impact on Climate Change
The effects on climate changes related to the Bagamoyo SEZ project will largely be associated with the emission of greenhouse gasses particularly during the construction and operation phases of the project. Scientific consensus has identified greenhouse gasses such as water vapour, carbon dioxide, methane, nitrous oxide and ozone as the main causes of climate changes in recent years. Carbon dioxide, mainly from industrial processes such as burning fossil fuels and coal materials, has been identified as the dominant greenhouse gas that largely affects the climate. Therefore, the introduction of large industries has the potential to increase CO2 emissions, which will contribute to climate change. In addition, deforestation of large areas may also contribute to the causes of climate change. Deforestation in particular reduces the amount of carbon dioxide to be absorbed and releases greenhouse gases directly to the atmosphere.

4.2 Socio-Economic Impacts
A number of plausible socio-economic impacts of the Bagamoyo SEZ master plan have been identified and are described in the following sections.

4.2.1 Impact on HIV/AIDS
It is possible that the SEZ project may pose a risk in relation to the fact that a migrant population may introduce, and induce, new behavioural patterns into the communities. This could result in transfer of contagious diseases. Sexual relations between a mobile population and along the Dar es Salaam-Bagamoyo trunk road
and the neighbouring village communities surrounding the SEZ might endanger said villages. Furthermore, construction of Bagamoyo SEZ will attract job seekers from nearby regions and Tanzania as a whole. This means that the risk of transmitting diseases will increase with the influx of migrant workers.

4.2.2 Impact on Historical and Heritage Sites
The impact on cultural sites due to encroachment of development areas is a risk. Within the project area, cultural/historic heritage/items of significance do exist both on and close to the planned SEZ site. These areas have a spiritual and biological value, which needs protection and conservation. Different tribes and clans have different beliefs and ways of respecting and honouring their ancestors. Likewise, there are taboos, traditions and customs including sacred burial sites and protected ritual sites, which are singled out for historical, cultural and ritual performances. For example, cemeteries were noted in every village visited (Pande, Kondo, Mlingotini, Zinga and Kiromo). There is a risk that these areas may be disturbed and affected by the implementation of Bagamoyo SEZ.

4.2.3 Impact on Employment
Establishing diverse industries in Bagamoyo SEZ may have a spin-off effect in terms of enhancing the local economy, and the country as a whole, thereby increasing spending power. During the construction stage, more people will be employed (including casual labourers) to assist in establishing the industries and the various infrastructural requirements.

Casual jobs are expected to be readily available for unskilled labourers, but the contractor/project proponents may also wish to employ community members with additional skills such as truck driving, carpentry, masonry or other semi-skilled works for the project.

4.2.4 Gender Recognition
Employment opportunities in the region could increase the income for women and families. Firstly, women will be employed in SEZ-related activities, i.e. industries etc. Secondly, during the construction period, the possibility for women to establish small-scale businesses such as food vending services to the working masses will increase. The involvement of the local population including women will promote capacity building in terms of new skills acquired from implementation of the project. Thirdly, during the operation of SEZ, women will be able to supply other services for the industries such as food, laundry and cleaning.

4.2.5 Impact on Resettlement
The implementation of the project will necessitate the relocation of properties within the SEZ corridor. The properties include residential housing, farming areas, business premises and community structures. Loss of these properties will affect the livelihood of the people living there.
Concerns raised during consultations included complaints that people have not been compensated. Family and or household structures will also be disrupted during the implementation of Bagamoyo SEZ. It should be noted that in most rural communities close relatives live in clusters. Taking the land or farms without compensation might cause families to split up.

4.3 The Next Steps

Identification of likely social and environmental impacts must be monitored through a strategic environmental assessment (SEA) based on a draft of the master plan for Bagamoyo SEZ. The SEA should provide in-depth analysis of all significant impacts arising from the final master plan, and thus provide sufficient information for the decision-making process when adopting the master plan. Proposed terms of reference for the SEA are attached in Appendix B of this report.

However, all investors, who have qualified to invest in the SEZ area, must before construction start carry out an environmental impact assessment (EIA) of each industry and establishment which could have an environmental impact.

As a supplement to the SEA – or incorporated into the SEA document – a resettlement action plan (RAP) should be prepared.
5 Planning Framework

This chapter identifies the planning framework for Bagamoyo SEZ and provides a roadmap for the preparation of a master plan. The main components considered in the planning framework are the laws on planning and special economic zones.

The planning framework has been prepared taking into consideration the Government of Tanzania’s planning objectives on regional and local levels.

The Bagamoyo District Council in collaboration with the Ministry of Lands, Housing and Human Settlements Development, is currently preparing the master plan for Bagamoyo Town. Elements from the Bagamoyo SEZ master plan will be incorporated into this plan.

5.1 Policy and Legal Framework

In recognition of the importance of natural resources for Tanzania’s economy and way of life, the country has a comprehensive body of laws that relate to the environment, infrastructural investment etc. The details of this legislature is contained in a number of important acts and regulations, many of which have been recently promulgated, as older laws are being revised to reflect the relatively new privatization policy. The new legislation follows the general global trend for greater focus on environmental protection, particularly in relation to natural resources utilization, loss of biodiversity, energy production and global warming.

Infrastructural investments under Bagamoyo SEZ may be established in all sectors of the economy. As such, much sectoral legislation will have bearing on the development and operation of the individual sub-projects.

The majority of sectoral legislation requires that the project proponent respects the environmental integrity and recommends that environmental impact assessments be carried out in order to achieve that objective. The following are considered to be the principal policies and acts to guide the project proponent in the implementation of Bagamoyo SEZ.
5.2 Policies relevant for Bagamoyo SEZ

In the following, a brief introduction is given to the policies that are important for the development of Bagamoyo SEZ.

5.2.1 Mini-Tiger Plan 2020

The Tanzania Mini-Tiger Plan 2020 provides the policy framework that guides the preparation of master plans for development of special economic zones in Tanzania. Furthermore, the Mini-Tiger Plan 2020 is a practical development strategy and tool for the realization of Vision 2025, which aims to make Tanzania a fast growing economy in Sub-Saharan Africa.

One of the three key targets of Vision 2025 is to build ‘a strong and competitive economy’ with an annual growth rate of about eight per cent or more.

The Mini-Tiger Plan 2020 provides a unique opportunity to accelerate economic growth in Tanzania by adopting the East Asian Economic Development Model.

The model focuses on providing a competitive business environment to attract foreign direct investments (FDIs), which was termed ‘migrating birds’ and/or ‘flamingos’, as well as encourage local investment to the special economic zones (SEZ), which was termed ‘ponds’. The ponds (SEZ) are therefore planned to attract migrating birds/flamingos (FDIs) and local investment, thereby creating a catalyst for economic growth.

The main targets of the Tanzania Mini-Tiger Plan 2020 are:

› To develop about 25-30 SEZ areas throughout the country. However, its implementation will start with a pilot project in each sector of the economy and expand the success nationwide with the ‘Z-A Approach’, i.e. from the market to production. In these SEZ areas, issues of inadequate infrastructure and non-conducive policies, legal and institutional frameworks will be addressed for attraction of FDIs and domestic investments.

› To create about 2-3 million new jobs by year 2020 through the development of SEZ areas.

› To increase the annual economic growth to about 8-10% GDP and improve the national balance sheet by expanding exports.

› To raise GDP to US$ 40 billion.

› To rise exports from about US$ 1.1 billion to US$ 20 billion.

› To increase per capita income from about US$ 280 to at least US$ 1000.

› To expand investment activities into more valued-added sectors and move into larger investment projects, not only in the export-oriented industries but also by moving into import substitution and processing industries as more domestic and foreign capital becomes available.

› To give priority to the most promising sectors for aggressive development for the first five years. These sectors are (i) Primary Sector which include
agriculture, fishery, forestry, mining, especially export-oriented cash crops, (ii) Tourism and (iii) Export oriented light industry (garment and textile and agro-processing industry).

› To give priority to industries which are competitive and sustainable under the competitive global market economy.

› To promote and establish several types of special economic zones (SEZ) for attracting private investments aggressively both in FDI and DDI: (Possible SEZ areas are garment and shoes based SEZ, Tanzanite jewellery based SEZ, tourism based SEZ, agro-processing based SEZ, commercial forestry based SEZ, import-substitution industry based SEZ, ICT based SEZ, second-hand machinery sales based SEZ etc.).

Among the achievements in implementation of Tanzania Mini-Tiger Plan 2020 to-date in 2012, through implementation of SEZ areas, the following can be stated:

› Construction of infrastructures and development of Benjamin William Mkapa Special Economic Zone (BWM-SEZ), which was a pilot SEZ project in Tanzania.

› Feasibility study (completed) and the final preparation of a master plan for establishment of Bagamoyo special economic zone.

5.2.2 The National Land Policy (1995)
The policy advocates equitable distribution and access to land for all citizens. It aims to ensure that existing land rights, especially the traditional rights of smallholders, are recognized, clarified and secured by law. Under the policy framework, land is to be put to its most productive use to promote rapid social and economic development.

To adhere to this policy, EPZA should ensure that no possible land conflicts exist in the project area. This means that EPZA needs to consult villagers/land owners prior to acquiring land for industrial works or administration.

5.2.3 National Environmental Policy (1997)
The NEP recognizes that investment is the major source of income in Tanzania and the catalyst for generating employment. However, industrial development resulting from this investment can pose enormous environmental challenges. Paragraph 62 states that;

‘… As a means of exploiting resources, direction of investment and orientation of technological development shall be in harmony and enhance both the current and future potential to satisfy human needs and aspirations’.

NEP recognizes environmental impact assessments as a strategic tool, and one which is necessary in order to achieve that objective quoted above. It stipulates that an EIA be mandatory for all development projects.
5.2.4 Small and Medium Enterprise Development Policy 2002
The overall objective of this policy is to foster job creation, and income generation, by promoting the creation of new SMEs as well as improve the performance and competitiveness of existing ones while increasing their participation in, and contribution to, the Tanzanian economy.

In Tanzania, SMEs contribute to more than 30 per cent of the workforce. However, as per the Informal Sector Survey of 1991, there were more than 1.7 million businesses employing approximately 20 per cent of Tanzania's workforce. Because SMEs form so large and informal a sector, the Government is giving them focus and promoting them in a manner which will help them meet their full potential. This includes reforming existing legal and regulatory frameworks, providing easier access to finance, and improving the institutional support network within the country.

5.2.5 National Tourism Policy (1999)
The overall objective of the National Tourism Policy is to assist efforts to promote the economy and livelihood of citizens/people. The policy also encourages the development of quality tourism which is culturally and socially acceptable, ecologically friendly, environmentally sustainable and economically viable. Bagamoyo has many attractions as such, and it is important that one is aware of this policy when implementing SEZ Bagamoyo.

5.2.6 National ICT Policy 2002
The development and promotion of ICT is very important in Tanzania. The Government is trying to improve ICT infrastructure within the country, its aim is to ensure local and international telecommunication services at a competitive rate, the objective being acceleration of socio-economic development and improvement.

5.2.7 The National Trade Policy (2003)
This policy aims to stimulate trade development, thereby triggering higher performance and increasing capacity to compete within the domestic market. This includes improving market place infrastructure and disseminating information on the market and generally increasing access to the market.

5.2.8 National Human Settlements Development Policy
Part of the central thesis of this policy is that:

‘… there aren't enough surveyed areas and services land for human settlements development. Furthermore the procedures for securing land are difficult and cumbersome.’

The policy urges the lease of land, to both private and public investors, in accordance with existing laws, stipulating that land leasers have to pay adequate and fair compensation to holders of land required for expansion. Thus, the ultimate
future vision of this policy is to have well organized, efficient, healthy, safe and secure and aesthetic sustainable human settlements and infrastructure services.

5.2.9 The National Construction Industry Policy (2003)
This policy is a generalized statement embracing all activities associated with construction. The policy has several objectives, including those covering environmental components. It defines objectives dealing with construction which address the environment, economic growth and sustainability, they include:

› Promoting the use of cost-effective and innovative technologies and practices to support socio-economic development activities such as road works, water supply, sanitation, shelter delivery and income generating activities.
› Ensuring the application of practices, technologies and products which are not harmful to either the environment or human health.

5.2.10 National Employment Policy (1997)
The employment policy aims at identifying potential employment areas and at laying down strategies on how to utilize such areas in promoting employment in the country. The policy recognises the role of the private sector in employment creation and the government has provided favourable conditions for the private sector, such as good investment climate. The general hope is that the implementation of Bagamoyo SEZ will create employment opportunities and stimulate economic growth.

5.2.11 Sustainable Industrial Development Policy 1996-2000
In order to ensure promotion of environmentally friendly and ecologically sustainable industrial development, the following will be implemented:

› The government will carry out sensitization on environmental awareness in its broader application in relation to people, land and wildlife.
› An appropriate motivation mechanism will be provided within the investment promotion act geared to cater for promotion of investments which contain anti-pollution programmes.

5.2.12 National Gender Policy (1999), Revised in 2002
The key objective of the policy is to provide guidelines that ensure that gender sensitive plans and strategies be developed in all sectors and institutions. While the policy aims at establishing strategies to eradicate poverty, it emphasises gender quality and the equal opportunity of both men and women to participate in development undertakings and encourages the appreciation of the role played by each member of the society.

The sub-projects to be implemented should ensure that rural women, who are part of the rural infrastructure, be adequately involved at all levels of the project planning and implementation.
5.3 Acts relevant for Bagamoyo SEZ

In the following, a brief introduction is given to the most important acts that regulate the activities in Bagamoyo SEZ.

5.3.1 Special Economic Zones Act, 2006 (Act No. 2/06)

This act makes provisions for the establishment, development and management of the special economic zones; for creating an environment to attract local and foreign investment; for facilitating the expansion of employment opportunities, attainment of economic growth targets and for providing for matters related therewith and incidental thereto.

Sections 4, 5 and 12 of the Special Economic Zones Act Number 2 of 2006 assign power to the Special Economic Zones Authority regarding the overall activities related to establishment and development of SEZ areas. These activities include declaring an area of land a SEZ area; determining SEZ components (that may include one or more of the following: industrial parks, export processing zones, free trade zones, free ports, tourist parks, science and technology parks); determining priority sectors to be promoted in a particular SEZ; determining activities to be promoted in a particular SEZ; and approving SEZ development plans (general and detailed planning schemes).

Section 16 of the Special Economic Zones Act assigns power to the Special Economic Zones Authority to make arrangements with utility agencies and other development partners to provide service infrastructure in the SEZs. It also stipulates tax laws to accommodate SEZ and EPZ investment incentives.

The Special Economic Zone Act provides a list of investment incentives in SEZs. These incentives are categorized in three groups, where category A involves incentives to infrastructure developers; category B involves incentives to investors for domestic production; and category C involves incentives to investors for export production.

5.3.2 The Export Processing Zones (Amendments) Act, 2006 (Act No. 3/06)

This act amends the Export Processing Zones Act, making provisions for the establishment of the Export Processing Zones Authority, the composition of the Export Processing Zones Council and related matters.

Section 2 of the act states that, for the purposes of initiating, developing and managing operations of the export processing zones, the authority must:

› In consultation with the Minister responsible for lands and the local government authority acquire land in its name and erect thereon industrial and commercial buildings and lease such buildings to investors for undertaking thereon the export processing zones licensed businesses.
› Provide basic infrastructure for purposes of operations in the export processing zones.
› Provide within the Export Processing Zones utilities and a system of sewerage, drainage and removal of refuse and waste for the benefit of export processing zones investors and other users;
› Prepare national and international programmes for appropriate promotion of the Export Processing Zones;
› Ensure the provision of security and surveillance, property and equipment maintenance and availability of restaurants and food services;
› Provide commercial information for the benefit of investors in the Export Processing Zones; and
› Provide any other public utility as may be necessary for the betterment of operators and investors within the Export Processing Zones or consumers of products or services from the Export Processing Zones.

The functioning of Bagamoyo SEZ will be successful if the EPZA management adheres to this act.

5.3.3 The Customs Tariffs Acts, 1976
Exemptions of Import Duty and Suspended Duty. Under Export Processing Zones goods imported or purchased by the investor licences under the Export Processing Zones Act, 2002 for use as raw materials, equipment, Machinery, including all goods directly related to the manufacturing in the Export Processing Zones, but shall not include motor vehicles, spare parts and consumables.

5.3.4 Income Tax Act 2004
The act, among other things, specifies income derived from investments ex-empted under the Economic Processing Zones Act.

An export processing zone (EPZ) is a special zone where different taxation rules apply. A company operating in an EPZ must sell at least 70% of its produce outside Tanzania. Any produce sold in the Customs Territory of Tanzania will be treated as an import into Tanzania for tax purposes, i.e. import duty, VAT and excise on imports as applicable will be levied. The Export Processing Zones are regulated under the Export Processing Zones Act and relevant provisions are included in the tax laws to reflect this.

Companies in the EPZ enjoy the following fiscal incentives:
› Exemption from corporate income tax for ten years and thereafter a rate of corporate income tax no higher than 25%
› Exemption from withholding tax on interest and dividends
› Exemption from stamp duty on documents relating to activities in the EPZ
› Exemption from all taxes and levies imposed by local government authorities (except for goods sold in customs territory)
› Exemption from 50% of the training levy for investors who train local employees

5.3.5 East African Community Customs Union (Export Processing Zones) Regulations

The purpose of these Regulations is to implement the provisions of Article 29 of the Protocol and to ensure that there is uniformity among the Partner States in the implementation of the provisions on export processing zones and to ensure to the extent possible, that the process is transparent, account-able, fair and predictable.

These Regulations shall apply to export processing zones in the Customs Union and shall be applied in conjunction with existing legislation relating to export processing zones in each Partner State.

Regulation 6 states the Establishment of Competent Authorities, where a Partner State operates export processing zones, it may establish a competent authority to develop, coordinate and oversee operations within the export processing zones.

Regulation 9 states the facilities within Export Processing Zones, the competent authorities may require export processing zones developers to provide and maintain in an export processing zone facilities including, adequate enclosure to separate an export processing zone from the customs territory, as it may consider necessary for the proper and efficient functioning of the export processing zone.

5.3.6 East African Community Protocol

Article 29 of the protocol states on the establishment of the export processing zone among the partner states where the following shall apply;

a) Entry into an export processing zone shall allow total relief from payment of duty on imported goods used directly in the production of goods for export by a person authorised to carry out that activity in the zone.

Article 31 states on the establishment of free ports for the purposes of facilitating and promoting international trade and accelerating development within custom unions; The functions of the free ports shall include the followings;

(a) Promotion and facilitation of trade in goods imported into free ports;
(b) Provision of facilities relating to freeposts including storage, warehouses and simplified customs procedures; and
(c) Provision for the establishment of international trade supply chain centres, where persons from within and outside the Community access and harness market opportunities and enhance competitiveness in import and export trade within the global setting.
Article 32 of the protocol states other arrangements that the partner states should agree with such as:

(a) The Council may, from time to time, approve the establishment of other special economic arrangements for purposes of the development of the economies of the Partner States.

(b) Free port zones may be established at seaports, river ports, airports and places with similar geographic or economic advantage.

5.3.7 East African Community Custom Management Act, 2004
An act of the community to make provisions for the management and administration of the customs and for the related matters.

Part XIV section 167(1) (a-b) subject to custom laws, goods in export processing zones or free ports, whether foreign or of domestic origin shall be entered for;

(a) export after undergoing processing in an export processing zone;

(b) re-export in the same state from a free port.

Section 167(2) Goods entering an export processing zone or a free port shall be exempt from duty in accordance with the protocol.

Section 169(1) of the act empowers commissioner to designate areas in export processing zone or free port where customs formalities shall be carried.

Section 169(2) gives provisions for the export processing zone operator or free port operator to operate under following conditions;

(a) Provide office accommodation and just weighs, scales, measures and other facilities for examining and taking account of goods and for securing them as the proper officer may reasonably require;

(b) Keep a record of all types of plant, machinery and equipment, raw materials and goods manufactured in the export processing zone or a free port and keep that record at all times available for examination by the proper officer;

(c) Provide all necessary labour and materials for the storing, examining, packing, marking, cooperating, weighing and taking stock of the goods in the export processing zone or free port whenever the proper officer so requires.

5.3.8 The Value Added Tax Act, 1997
This is an Act to make provisions for the imposition of a tax to be known as the Value Added Tax on Supplies of goods and services and for related matters.

Made under Section 11 (Third Schedule) of the act gives special relief for the investors to be granted under export processing zones as follows;
(a) Remission of customs duty, value added tax and any other tax payable in respect of goods purchased for use as raw materials, equipment, machinery including all good and services directly related to the manufacturing in the Export Processing Zones but shall not include motor vehicles, spare parts and consumables;

(b) Exemption from payment of all taxes and levies imposed by local government authorities for goods and services produced or purchased in the Export Processing Zones.

5.3.9 The Environmental Management Act, Cap 191 of 2004

EMA governs environmental management issues including environmental impact assessment (EIA) requirements in the country. The act stipulates that any developer of a project for which an EIA is required to be made by law must undertake, at his own cost, an EIA before commencing the project.

Thus, the EMA is the main legal document stipulating general principles on environmental conservation, protection and management and it therefore set a precedent for undertaking the EIA in Tanzania.

5.3.10 Environmental Impact Assessment and Audit Regulations, 2005

The regulations emphasize the important of EIA as one of the environmental management tools in the country. The intention is to ensure proper management of the environmental and sustainable utilization of natural resource base.

According to the guidelines, the purpose of an EIA is to incorporate environmental and social concerns into project development by institutionalising EIA in the planning process. The regulations stipulate that the issuance of any development permit/license must be subject to the provision of an environmental approval by the Minister responsible for environment.

5.3.11 Land Act, 1999. Cap. 113 R.E 2002

The Act come into force to provide for the basic law in relation to land, other than village land, management of land, settlement of disputes and matters incidental thereto. Provisions of the Act include classification and tenure of land, land administration procedures, rights and incidents of land occupation, granted rights of occupancy, conversion of interests in land, dispositions affecting land, land leases, mortgaging of land, easements and analogous rights, co-occupation and partitioning and settlement of land disputes.

Section 3 (1) (a)-(g) of the land act recognizes key fundamental principle of the Land Policy that:

(a) All land is public land vested in the President as trustee on behalf of all;

(b) Guarantee security to all rights to land occupancy or use;

(c) Access to land by all citizens;
(d) Regulation of amount of land one may occupy;

(e) Productively use of land;

(f) Land has value;

(g) Payment of full, fair and prompt compensation to any person whose right of occupancy or recognized long-standing occupation or customary use is revoked or otherwise interfered or acquired to their detriment by the state.

Recognise land owners and pay compensation to all individuals whose land will be acquired to pave way for the SEZ implementation.

**Photo 5.1** Typical housing in the Bagamoyo SEZ

**5.3.12 Village Land Act, 1999, Cap.114R.E 2002**

The Village Land Act 1999 empowers the village council to manage village land as trustee, managing property on behalf of the villagers and other persons residing in the village.

The act empowers the village assembly to divide the village land, occupied, used, available for occupation, community used and/or public used land, then to be known as communal village land. It also identifies land being occupied or used by an individual, family, or group of persons under customary law.

**5.3.13 The Urban Planning Act, 2007**

The Urban Planning Act grants authority to create plans prior to proposed development and stipulates a comprehensive system of development control. It provides for the declaration of planning urban areas by the Minister responsible for urban planning in consultation with local authorities, and for the constitution of
area urban planning committees and procedures for preparation of schemes and the approval by the Minister. The general planning schemes, which came to be known popularly as master plans, have, for more than forty years, continued to be the primary planning and management tool guiding urban development in Tanzania. These provide for overall planning, preparation of detailed schemes and project plans.

The Bagamoyo SEZ area is characterized by unplanned settlements in almost all of the villages surveyed. This act has to be taken into considerations before and during the implementation of the individual sub-projects within SEZ.

5.3.14 The Land Acquisition Act, Cap.118 R.E 2002
The act grants powers to the President to acquire any land, for any estate or term, where such land is required for any public purpose. It also defines circumstances under which the land is acquired for public purpose. The act provides procedures for paying compensations, compensation packages, compensations disputes as well as assessment of compensations. It is assumed that EPZA has followed all procedures for acquiring the land, including paying compensations to property owners.

5.3.15 Land Use Planning Act, 2007
The act provides procedures for the preparation, administration and enforcement of land use plans and matters incidental to. The primary stipulation of the act is that development projects should take into consideration and understand the strategic planning of the other land surrounding the project.

5.3.16 Local Government (District Authorities Act, Cap 287)
The act gives authority to local governments to regulate matters that are local. A pertinent example of such authority of relevance to the project is that the local government may opt to regulate extraction of minerals or building material, through their by-laws. Despite the authority of local governments, the bylaws should not derogate any principal legislation.

5.3.17 Local Government (Urban Authorities Act, Cap 288)
The act establishes urban authorities for the purposes of local government, provides for the functions of those authorities and for other matters connected with or incidental to those authorities.

5.3.18 Road Act, 2007
The act makes provisions for road financing, development, maintenance, management and other related matters. It also provides for road classification and declaration as well as provisions for road management where it assigns responsibilities to different authorities at national to local government authority level.
5.3.19 The Tanzania Bureau of Standard Act No.3 of 1975

One of the objectives of the act is to improve the quality of industrial products both for export and for local consumption through various certification schemes, such as pre-export/pre-import inspection and testing, the tested product certification scheme and quality system registration.

A number of industries and service organizations, in both the public and private sectors, have already adopted Tanzania Standards in their manufacturing processes and purchasing programmes. Manufacturers producing products in conformity with Tanzania Standards are granted license to use the 'tbs' mark on their products.

With regards to the above, the project proponent will adhere to this act to ensure a better quality in terms of delivering industrial products.

5.3.20 The Occupational Health and Safety Act, No. 5 of 2003

The OHS act makes provisions for the safety, health and welfare of persons at work. It also provides for the protection of persons, other than the workforce, against health hazards and safety issues arising in connection with industrial activities.

5.3.21 The Employment and Labour Relation Act, No. 6 of 2004

The act, subsection 7 (1), requires that employers ensure that there are equal employment opportunities for all and strives to eliminate discrimination in any employment policy or practice. Also, no employer may discriminate an employee on any of the following grounds: colour, nationality, tribe, place of origin, gender, disability, HIV/AIDS etc.
The project proponent must ensure that this act is adhered to ensure favourable relations between employer and employee.

5.3.22 The HIV and AIDS (Prevention and Control) Act, 2008

The act stipulates that:

'… every ministry, department, agency, local government authority, parastatal organization, institution whether public or private, shall design and implement gender and disability responsive HIV & AIDS plans in its respective area, and such plans will be mainstreamed and implemented within the activities of such sector'.

Therefore, attention needs to be paid to any existing HIV and AIDS plans in areas where projects are to be implemented.

5.3.23 Fisheries Acts, 2003

The fisheries acts calls for the minimization of pollution, waste disposal, discards, catch by lost or abandoned gear, catch of non-target fish or species and impact on associated or dependent species through the development and use of selective, environmentally safe and cost-effective fishing gear and techniques.

The act is relevant to the SEZ Bagamoyo, which borders on Indian Ocean where fishing activities are carried out by local communities in the area. The project proponent should ensure that no liquid or solid waste be dumped in the mentioned rivers to avoid harm to species living in the sea.

5.3.24 The Water Resources Management Act No.11 of 2009

The act stipulates the institutional and legal framework for sustainable management and development of water resources. It outlines principles for water resource management, prevention and control of water pollution and provision for public participation of stakeholders and the general public.

5.3.25 The Graves Removal Act Cap 73

The Graves Removal Act gives the Minister responsible the power to remove the graves for public purposes. The act states that;

'… where any land for which a grave is situated is required for public purposes, the Minister may cause such grave and any dead body buried therein to be removed from the land and in such case shall take all such steps as they may be requisite or convenient for reinstatement of the grave and the refinement of the dead body in a place approved by him for the purpose'.

This act is relevant to the Bagamoyo SEZ master plan as there are graves on the site, which must be protected during the implementation of the plan or possibly relocated.
5.4 Regulations relevant for Bagamoyo SEZ

In the following, a brief introduction is given to the regulations that are important to the development of Bagamoyo SEZ.

5.4.1 The Land (Assessment of the Value of Land for Compensation) Regulations, 2001

The regulations provide the basis for assessing the market value of a specific land type to ensure that fair and adequate compensation is paid. It stipulates the method for determining market value. The project proponent should make sure that those affected are compensated prior to any development.

5.4.2 The Land (Compensation Claims) Regulations, 2001

The regulations define compensation rights and eligibility. They set out provisions for monetary compensation, or may, at the behest of the Government, take the form of all or a combination or any of the following:

› A plot of land of comparable quality, extent and productive potential to the land loss.
› A building or buildings of comparable quality extent and use comparable to the building or buildings lost.
› Plant and seedlings and regular supplies of grain and other basic foodstuffs for a specified period.

5.5 Conceptual Framework for Bagamoyo SEZ

Conceptually, at regional level (East African Community), the SEZ may comprise the following components which are often categorised as SEZ schemes:

a) Township zones
b) Export processing zones
c) Industrial parks
d) Free port zones
e) Free-trade zones
f) Tourist and recreational centres
g) Information communication technology parks
h) Science and technology parks
i) Agricultural zones
j) Regional headquarter zones
k) Institutional zones
l) Financial service zones
Therefore, the planning, design and development of SEZ areas may make use of one or more of these schemes. Details and definitions, agreed to within the East African Community, of each scheme are provided in the following section. One was then selected in the planning and design of Bagamoyo SEZ.

Bagamoyo SEZ is to be developed according to the requirements for a township SEZ. Therefore, Bagamoyo SEZ will comprise the following main SEZ schemes:

- **Industrial park**: A SEZ area with integrated infrastructure specific to the needs of manufacturing and processing industries, and may or may not be a SEZ customs controlled area. Within the industrial zone a wide range of light and medium manufacturing industries, utilities, and support/supply industries can be located.

- **Tourist and recreational centres**: A SEZ area that may or may not be a SEZ customs controlled area, with tourism and recreational related facilities including hotel accommodation, convention, meetings, exhibition, specialized medical care, recreational facilities and long-term residences for retired persons.

- **Institutional zone**: A SEZ area established as a centre of excellence for advanced, world-class teaching and learning, which may or may not be customs controlled area. A wide range of land uses are permitted from university, schools, hospitals, police/fire stations to ICT campus, corporate/financial headquarters, and support services.

- **Administrative zone**: A SEZ customs controlled area for location of administrative service centres, including support services, other service facilities and commercial functions. The administrative land use permits a range of commercial and retail service/convenient retail services as well as small hotels, banks, restaurants, and support services to commercial and industrial activities.

- **Residential zone**: A SEZ area that is not to be customs controlled. In order to reduce land use for housing, residential areas should foremost be planned with a high building density.

- **Port and rail zone**: A SEZ customs controlled area located in or adjacent to a port of entry where goods may be unloaded for transhipment, storage, bulk breaking, repacking, sorting, mixing, trading or otherwise manipulated. The facilities should be able to handled every kind of traffic, support and storage facilities that may vary widely and facilitate intermodal transport by accommodating both port, rail and marshalling with proximity to primary roads.

Bagamoyo SEZ will also include conservation (nature) and other types of open space that are permitted and in some cases will be required.
5.6 Planning Initiatives in the Bagamoyo Area

The planning of Bagamoyo SEZ must be seen in the context of other relevant planning and planning initiatives in the area, which are described in the following.

There are several possibilities to utilize green technology and promote energy efficiency in development of a SEZ. Although new technologies are constantly being developed to complement current practices, the common objective is to reduce the overall impact of the built-up environment on human health and the natural environment by:

› Efficiently using energy, water, and other resources
› Protecting occupant health and improving employee productivity
› Reducing waste, pollution and environmental degradation

Because industrial processes are so diverse, there is a multitude of possible opportunities for energy efficiency. Many industries depend on specific technologies and processes, in use at each industrial facility.

Various industries generate steam and electricity for subsequent use within their facilities. In several industries it is feasible to design and prepare the facilities to generate electricity from process steam or vice versa by use of a heat engine or a power station to simultaneously generate both electricity and useful heat. Likewise, flexible production of ethanol/sugar plus cogeneration of electric power can be set up as it has been done in the Bagamoyo Project for sugar cane processing under the ECO-energy project.

Bagamoyo District Council is in the process of preparing detailed planning schemes in the areas that border Bagamoyo SEZ to the west. These areas, which are under the administrative authority of Bagamoyo Town Council, are Ukuni, Kitopeni and Kaole.

With respect to Ukuni, the detailed scheme was prepared in 2006 and approved by the Director of Human Settlements Development Division on 3 July 2006. This scheme includes 190 plots for housing and plots for other city purposes such as primary school, secondary school and technical school.

Detailed planning schemes for Kitopeni and Kaole areas are still on the drawing board. However, they were expected to be presented to the council in January 2012 for acceptance and then to the Ministry of Lands for approval, upon which they will be made available to the general public.

With respect to Kitopeni and Kaole, the district council is in the process of preparing similar detailed planning schemes for residential purposes and light industries, educational (school sites – nursery school, primary school, secondary school and technical school), hotel sites, petro station, religious sites, cemeteries and open spaces. These land use activities are expected to be integrated in the Bagamoyo master plan.
Proposed land use activities west of Bagamoyo SEZ must be compatible with and harmonized to match those in Bagamoyo SEZ as they are adjacent.

In the SEZ, some stakeholders have started planning for their future activities. Tanzania Port Authority (TPA) has started the preliminary stages for preparation of a master plan for the new port. The Uongozi Institute has prepared the first draft master plan for their new institute. These stakeholders have been consulted in this master planning for Bagamoyo SEZ and the master plan will contain those projects.

At the district level, Bagamoyo District Council is in the process of preparing a strategic development framework plan that covers Bagamoyo SEZ.

According to the Land Act No.4 of 1999 part II section 4(4), the land that falls within township and minor settlements is known as general land. This includes all land with granted right of occupancy and unused village land. Most general land in the designated urban areas is still under customary or designated as village land until such time when full and fair compensation is paid. The Bagamoyo District land use framework plan has recognised the SEZ as an area designated for urban development. Therefore villages such as Kiromo, Pande, Mlingotini and Kondo are earmarked for urban development, industries and the special economic zone (SEZ).

5.7 Stakeholders Consulted
The preparation of Bagamoyo SEZ involved interviews and discussions with key stakeholders that were identified by the client (EPZA) in collaboration with the
consultant (COWI). The main purpose of the interviews and discussions with key
stakeholders was to collect their comments and views, which were then
incorporated in the preparation of the master plan. These stakeholders range from
ministerial level to grassroots level, see below. More information about the
stakeholders and the meetings held can be seen in Appendices C and D.

Ministerial level
Key stakeholders at the ministerial level include:

a) Ministry of Industry, Trade and Marketing
b) Ministry of Transport
c) Ministry of Lands Housing and Human Settlements Development
d) National Land Use Planning Commission
e) Planning Commission.

Institutional level
Key stakeholders at the institutional level, to include utility agencies are:

a) Rail Asset Holding Company (RAHCO)
b) Tanzania Airport Authority
c) Tanzania Ports Authority (TPA)
d) Tanzania Roads Agency (TANROAD)
e) Tanzania Investment Centre (TIC)
f) Dar es Salaam Water and Sewage Authority (DAWASA)
g) Tanzania Electric Supply Company (TANESCO)
h) Export Processing Zones Authority (EPZA).
i) Mbegani Fisheries Institute
j) Uongozi Institute
k) Kigongoni Prison at Bagamoyo.

Local level
Key stakeholders at the local level include:

a) Bagamoyo District Council
b) Village Leaders (Kondo, Pande, Mlingotini, Zinga and Kiromo villages)

Private sector
Key stakeholders at the private sector include:

a) Tanzania Chamber of Commerce Industry and Agriculture (TCCIA)
b) Confederation of Tanzania Industries (CIT)
c) Agriculture Council of Tanzania (ACT)
d) Kamal Steels Ltd.
6 Demand Forecast

This chapter presents an overview of Tanzania’s economic development since the mid-1990s, provides an assessment of the industrial sectors for Bagamoyo, and develops a 20-year demand forecast under three scenarios for the Bagamoyo SEZ site.

The demand forecasts identifies the following, which will be used to prepare the master plan for Bagamoyo SEZ:

› The number, type and size of the companies expected to move into the SEZ
› Land and infrastructure requirements for different land uses throughout time
› Employment numbers for the zone
   
   Future population estimates and housing needs/demand for Bagamoyo SEZ

6.1 Economic Development in Tanzania

Since the mid-1990s, Tanzania has achieved stable economic growth. Real annual GDP growth increased from 3.3 per cent in the early 1990s to an average of 7 per cent in the 2000s. After the financial crisis in 2009, real GDP growth stood close to 6 per cent, but recovered to 7 per cent in 2010\(^4\).

GDP growth was primarily driven by private consumption (growing population), exports (due to favourable gold prices) and gross fixed capital (mainly public investment). Private investment is expected to lead to growth in the short and medium term.

The Tanzanian economy depends heavily on agriculture, which contributes 27.8 per cent of GDP, 85 per cent of exports and employs nearly 80 per cent of the working population\(^5\). The main agricultural products are coffee, sisal, tea, cotton, cashew nuts, tobacco and cloves. The service sector accounts for 48 per cent. The industrial sector, dominated by the construction sub-sector, accounts for 24.2 per cent\(^6\). Since 2000, the mining sub-sector has attracted the majority of foreign direct investment (FDI), contributing to its rapid growth. Tourism also contributes significantly to government revenues.

The Tanzania tourism industry plays an important role in the economy and is currently one of the primary national foreign exchange earners in the country. It contributes to approximately 26.6 per cent of the GDP in addition to producing over 250,000 different job opportunities, both directly and indirectly\(^7\).

Tanzania is highly dependent on aid as about 30 per cent of the government spending stems from contribution from development partners. This makes Tanzania one of the largest recipients of foreign aid in Sub-Saharan Africa and clearly renders the country vulnerable to global economic decline.

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\(^6\) CIA Factbook 2012.

\(^7\) US Department of State.
6.2 Population Development

Trend development

According to the District Social Survey of 2010, the population in Bagamoyo District was estimated to 280,007 in 2007.

The SEZ zone includes five villages: Kondo, Zinga, Pande, Mlingotini and Kiromo. The population and trend projections for the estimated population in the dedicated area of the SEZ, if the SEZ is not established, are based on the area percentage included in the wards and an annual growth rate of two per cent. The total population of Bagamoyo SEZ is thus estimated to be 11,600 in 2010 and 18,200 in 2030 if the SEZ is not established and no other major measures are taken to develop the area. However, EPZA plans to relocate all residents currently living in the planned area for the SEZ, so Table 6.1 only illustrates the likely population size in the SEZ area if the SEZ is not established.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiromo</td>
<td>2,114</td>
<td>2,243</td>
<td>2,504</td>
<td>2,810</td>
<td>3,163</td>
<td>3,492</td>
<td>3,856</td>
</tr>
<tr>
<td>Zinga</td>
<td>7,862</td>
<td>8,343</td>
<td>9,114</td>
<td>10,451</td>
<td>11,766</td>
<td>12,990</td>
<td>14,342</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,976</strong></td>
<td><strong>10,586</strong></td>
<td><strong>11,618</strong></td>
<td><strong>13,261</strong></td>
<td><strong>14,929</strong></td>
<td><strong>16,482</strong></td>
<td><strong>18,198</strong></td>
</tr>
</tbody>
</table>

*Source: Population census and projections, NBS, two per cent growth per year from 2020.*

Future population

The population in the SEZ will, in the future, develop according to employment opportunities from increased investments once the zone is established and those currently living there have been relocated. It is estimated that 40 per cent of future employees will move into the area. The remaining 60 per cent are expected to live in the surrounding areas and commute to and from their work places from outside of the zone.

It is estimated that the SEZ population will increase to 75,000 by 2030 as illustrated in Table 6.2.

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population from new employment</td>
<td>2,900</td>
<td>9,100</td>
<td>18,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Population from new families (50 per cent of employees with families of average four people per household)</td>
<td>4,300</td>
<td>14,000</td>
<td>27,000</td>
<td>45,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,200</strong></td>
<td><strong>23,100</strong></td>
<td><strong>45,000</strong></td>
<td><strong>75,000</strong></td>
</tr>
</tbody>
</table>

*Source: Consultant’s assumptions based on the population analysis in Technical Paper 1.*
6.3 Industrial Component in the SEZ

A comprehensive analysis\(^8\) of lessons learned for SEZ, over the past decades, shows that their success is critically linked to their location, development and management. Key elements of good practice are, that a SEZ design must be comprehensive and flexible and allow for varied industrial activity, have a strong institutional and management structure in order to be commercially viable and sustainable and operate with streamlined and simplified business procedures which cater to the client needs and minimise bureaucracy procedures. These factors are crucial if the Bagamoyo SEZ is to attract the private sector and meet to the development timelines for its implementation.

In accordance with the international classification ISIC code, the Tanzanian industry can be divided in the following groups:

- Mining and quarrying
- Manufacturing
- Electric power generation, gas generation, transmission and distribution
- Water collection, treatment and supply.

The total number of persons employed\(^9\) in industrial activity in Tanzania was 117,622 in 2008, of which 107,388 were engaged in manufacturing\(^10\). The other industrial sub-sectors accounting for about 10,000 persons include mining and quarrying, electric power sector and the water sector.

Tanzanian industry is concentrated in the Dar es Salaam area, which today accounts for 55 per cent of the gross output of the industrial sector, and 29 per cent of the workforce.

The potential sectors and sub-sectors for the industrial component in Bagamoyo SEZ, which were identified in the feasibility study\(^11\) from March 2011, are (with the exception of training for the tourist industry) all within the manufacturing and logistics sectors. Consequently, the demand forecast focuses on the development and expansion of trends in the manufacturing sector.

In order to understand the sector, land and infrastructure requirements for Bagamoyo SEZ, interviews with the private sector were undertaken. From these discussions and following a review of past feasibility studies for the site, an

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\(^9\) Persons engaged is defined as total of employees, partners/owners, unpaid family workers engaged in the business.

\(^10\) The statistical definitions do not include companies with less than ten persons engaged, as these types of businesses are normally not considered to perform industrial activity, but most often are engaged in handicraft-oriented activities.

\(^11\) "Feasibility Study for the Bagamoyo Special Economic Zone in Pwani Region (Updated), March 2011", published by EPZA.
An illustrative list of industrial products and potential activities was developed for Bagamoyo SEZ - see Table 6.3 below.

<table>
<thead>
<tr>
<th>Sub-sector</th>
<th>Potential Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agro-business, food and beverage</td>
<td>Integrated paddy processing: Rice milling, rice bran oil extraction and refineries, cattle feed, power production using husks, silica extraction and units for extraction of specialist chemicals such as orsinol, lisithinol etc.</td>
</tr>
<tr>
<td>Maize processing</td>
<td>Maize and tapioca starch, dextrins, modified starches, liquid glucose, high maltose and fructose corn syrup, corn gluten, maize germ, corn steep liquor etc.</td>
</tr>
<tr>
<td>Sugar refining</td>
<td>Refining of industrial white sugar as input for food and beverage industries.</td>
</tr>
<tr>
<td>Marine production</td>
<td>Production of fish feed. Processing of crustaceans (crab, prawns, lobsters), molluscs (squid, cuttlefish, octopus) and others that can be frozen, dried, canned or diced.</td>
</tr>
<tr>
<td>Meat and poultry production</td>
<td>Abattoirs, rendering plants, processed/semi-processed meat/poultry products etc. Specifically also linked with game meat farming and processing.</td>
</tr>
<tr>
<td>Food and beverage manufacturing</td>
<td>Confectionary, juices, sauces, honey processing, snack food products, food packaging, spices.</td>
</tr>
<tr>
<td>Dairy production</td>
<td>Milk/milk products (cheese, butter, milk powder, milk-based drinks, yoghurt, ice cream etc.)</td>
</tr>
<tr>
<td>Horticulture production</td>
<td>Flower growing, sorting, grading and packaging.</td>
</tr>
<tr>
<td>Packaging</td>
<td>Packaging supplies: Cartons, aluminium and tin cans, bags, tubes, jars, bottles, cups, tapes, foils, fasteners.</td>
</tr>
<tr>
<td>Chemicals</td>
<td>Downstream industries: Plastics, textiles, apparel, footwear fibres, building materials, pharmaceuticals, fertilizers (for instance blending and packaging) and petrochemicals.</td>
</tr>
<tr>
<td>Metal and machinery</td>
<td>Miscellaneous equipment: Animal fodder milling and pelleting equipment. Fishing gear equipment.</td>
</tr>
</tbody>
</table>

Source: 'Feasibility Study for the Bagamoyo Special Economic Zone in Pwani Region (Updated), March 2011', published by EPZA

Logistics sector

To improve the logistics in Tanzania, and more specifically in Bagamoyo, a multimodal transport node will have to be created in the SEZ. This includes developing a deep-sea port with connections to national roads and railways. This type of transportation platform will increase demand for land for warehouses, cold storage, vehicular storage, logistics, and 3P services as well as promote new trends in logistics that promote backward and forward linkages to the domestic economy.
The demand for land for logistics will be closely related to the port and rail development, rather than to the development of the manufacturing sub-sectors as such. This demand is therefore not included directly in the scenario demand forecasts presented in the following, but is included in the overall land use planning for port and related activities.

6.4 Three Scenarios for Development

It is imperative that a large-scale infrastructure project such as Bagamoyo SEZ be based upon a sound demand forecast that examines the many future usage patterns of the zone, and the infrastructure required to properly service the anticipated users. At its core, the demand forecast estimates the number of companies (or 'tenants') that are likely to establish themselves in Bagamoyo SEZ over the next 20 years and assesses their land requirements. A 20-year period is used to correspond with the long-term investment horizon that a private developer would use to estimate his or her rate of return on the project. The forecast also estimates the type of industry which is most likely to locate to Bagamoyo SEZ. Different sectors often demand distinct types of infrastructure or labour. Thus, it is essential that a SEZ offers space, infrastructure, and amenities commensurate with what is most likely demanded by potential tenants and users. As such, the results of the demand forecast intend to identify:

› the demand for land (measured in m²) for each sub-sector
› the number of average-sized companies established for each sub-sector (indicator of development of business activity)
› the employment potential (engaged persons)

In order to best illustrate the realm of development possibilities for Bagamoyo SEZ over a 20-year period, three scenarios were prepared for the site: a base case, an aggressive case and a conservative case. The base case provides the most likely scenario for development, and the conservative and aggressive cases identify factors that could slow or speed up implementation of the zone. The scenarios are based on the following assumptions:

› Economic growth conditions
› Potential improvements of the SEZ law, regulations and institutional structure of EPZA
› Availability of off-site and on-site infrastructure
› Expansion of industrial sectors and trends beyond the manufacturing sectors.
It is assumed that the core industrial sectors for Bagamoyo SEZ are as follows:

### Table 6.4  Sectors included in scenario analysis with 2008 structure in the Tanzanian economy.

<table>
<thead>
<tr>
<th>Manufacturing sub-sectors</th>
<th>Gross output million Tshs</th>
<th>Share %</th>
<th>Persons engaged</th>
<th>Share %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food products</td>
<td>1,109,701</td>
<td>23.6</td>
<td>43,792</td>
<td>40.8</td>
</tr>
<tr>
<td>Beverage and tobacco</td>
<td>1,104,511</td>
<td>23.4</td>
<td>12,593</td>
<td>11.7</td>
</tr>
<tr>
<td>Textiles and leather</td>
<td>206,594</td>
<td>4.4</td>
<td>13,430</td>
<td>12.5</td>
</tr>
<tr>
<td>Chemicals</td>
<td>427,145</td>
<td>9.1</td>
<td>4,687</td>
<td>4.4</td>
</tr>
<tr>
<td>Rubber plastics</td>
<td>773,230</td>
<td>16.4</td>
<td>6,685</td>
<td>6.2</td>
</tr>
<tr>
<td>Other</td>
<td>1,090,195</td>
<td>23.1</td>
<td>26,201</td>
<td>24.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,711,376</strong></td>
<td><strong>100 %</strong></td>
<td><strong>107,388</strong></td>
<td><strong>100 %</strong></td>
</tr>
</tbody>
</table>


The following are the scenarios for the demand forecast:

**Scenario – base case**

Tanzania's industrial economy will continue to develop with high growth rates of ten per cent p.a. in line with the high level experienced in 2008, despite the impacts of the current global economic and financial crisis. This assumes a growth rate above the realized average growth rate in the last decade. One of the reasons is that the potential for trade and specialization in the East African Community (EAC) market is being utilized to a higher degree now than in the past.

EPZA is currently developing best practice rules and regulations to support the SEZ Act, which, when adopted, will make the regime regionally competitive and more attractive to foreign direct investment. In addition, EPZA's institutional framework will be expanded and a new development corporation or development department will be created under their hospices, to allow EPZA to efficiently and effectively oversee private sector development in Bagamoyo SEZ in a strategic and streamlined manner. As well, necessary on-site and off-site infrastructure will be prioritized by GoT to ensure the long-term sustainability of the zone. A new deep-sea port is expected to be operational in Bagamoyo by 2018/2020 under either public or private ownership.

**Scenario – conservative case**

The Tanzanian economy including the manufacturing industry will not be able to develop as in the best years, but will still experience a solid growth at the level of eight per cent p.a., as both the EAC market and the remaining international markets for some years will suffer from reduced growth due to the economic crisis.

EPZA is, as in the base-case scenario, developing best practice rules and regulations to support the SEZ Act, which, when adopted, will make the regime regionally competitive and more attractive to foreign direct investment. EPZA's institutional framework will, however, not be expanded in the short to medium term so a new development corporation or development department will not be created under their hospices. This will limit timely private sector development in Bagamoyo SEZ. Consequently, business developers do not have sufficient
confidence in GoT’s ability to operate as an efficient development organisation and provide the expected infrastructure in time. As an example, it is not assumed that a port will be in operation in Bagamoyo within the planning period. As a result, no more than ten per cent of future growth in the manufacturing industry in Tanzania will be located in the Bagamoyo SEZ. The sector composition in manufacturing will also change slightly, so agro-business will take up a smaller share than in the current structure.

The Tanzanian economy including the manufacturing industry will develop with high growth rates of 12 per cent p.a., which is above the growth rate experienced in the best recent years. Some reasons are that the potential in intra-regional production and trade in the EAC market is utilized better than before and that the financial crisis in the rest of the world will not be severe or last long.

EPZA has rapidly developed best practice rules and regulations to support the SEZ Act, which, when adopted, will make the regime regionally competitive and more attractive to foreign direct investment. The flexibility of the current SEZ Act is used in a dedicated manner and swiftly to ensure that regulations and procedures are streamlined and optimized to ensure maximum efficient management and support of business developers. Furthermore, a focused development organisation for Bagamoyo SEZ will be established before the SEZ is operational. An important outcome is that investors will have confidence in GoT’s ability to ensure that necessary infrastructure (on-site and off-site) keeps pace with the demand for plots in the area. It is assumed that a port will be operational in Bagamoyo from 2018, either under public or private ownership, and that investors have confidence in this from the beginning of the period so they will plan and invest with this in mind.

As a result, 20 per cent of the future growth in the manufacturing industry in Tanzania will be located in Bagamoyo SEZ. The sector composition in manufacturing will change, agro-business being more important than in the current national structure.

The specific assumptions used in the demand forecasts are presented below.

**Table 6.5 Specific assumptions in the three scenarios.**

<table>
<thead>
<tr>
<th></th>
<th>Base case</th>
<th>Conservative case</th>
<th>Aggressive case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual growth of economy</td>
<td>10 %</td>
<td>8 %</td>
<td>12 %</td>
</tr>
<tr>
<td>Bagamoyo SEZ share of national growth</td>
<td>15 %</td>
<td>10 %</td>
<td>20 %</td>
</tr>
</tbody>
</table>

**Manufacturing sector composition:**

| - Food product                     | 25 %      | 20 %              | 30 %            |
| - Beverage and tobacco             | 25 %      | 20 %              | 25 %            |
| - Textiles and leather products    | 5 %       | 5 %               | 5 %             |
| - Chemicals                        | 10 %      | 10 %              | 10 %            |
| - Rubber, plastic products         | 15 %      | 15 %              | 15 %            |
| - Other                            | 20 %      | 30 %              | 15 %            |
| Annual increase in labour productivity | 3 %       | 3 %               | 3 %             |

*Source: Consultant’s assumptions based on the industrial analysis in Technical Paper 1.*
6.5 Demand for Land for Industrial Purposes

Industrial demand for land depends on the very specific type of operations and varies depending on factory size, storage location and access requirements.

In industrial parks and facilities throughout Tanzania, the average plot sizes range in size depending on the requirements of the industrial sectors. In the adjacent Kamal Industrial Estate, which is being developed by the Kamal Industry Group close to Bagamoyo SEZ, the land use plan includes plots varying in size from 1,250 m$^2$ to about 20,000 m$^2$. The plots offered by the Kamal Group have an average size slightly below 5,000 m$^2$.

Interviews with stakeholders have confirmed that the need for land by manufacturing industries is in practice very company-specific, even within the same sub-sector, depending on the chosen technology. As such, the demand forecast assumes that an average-sized company in Tanzania will require one to two plots of 10,000 m$^2$. The resulting assumed demand for land by an average company of 20,000 m$^2$ is very generous compared to what is seen in other places, but this reflects the fact that the cost of land will probably be relatively low in Bagamoyo SEZ compared to the Dar Es Salaam area and therefore in high demand. As the price of land in Tanzania is subject to agreement between stakeholders and no statistics exist on actual land prices, specific price levels cannot be stated.

Labour for industry

The skill set, quantity and quality of labour depends on the type of operation. In the demand forecast, the average number of employees per company (measured as engaged persons) is used to calculate employment potential, with the assumption that labour productivity increases over time so that the actual employment effect is reduced.

The average size of companies, in terms of production volume and staff, often increases over time due to economies of scale. However, the vision of the SEZ is to attract both Tanzanian and foreign developers, which could result in many small scale Tanzanian and some larger foreign companies, making it hard to predict the final composition.

The general experience in developing economies is that export-oriented and foreign owned companies tend to employ an educated labour force with higher average levels of competence than domestic-oriented and locally owned companies. Furthermore, experience in Tanzania shows that average salaries for staff with the same level of education are higher in export-oriented and foreign owned companies than in domestic-oriented and locally owned companies. Although the specific composition of companies in the SEZ cannot be predicted, it can with high certainty be assessed that the companies in the SEZ on average will demand higher skilled labour and pay better than companies outside the SEZ.

The demand forecast illustrates that political, economic, institutional and social variables greatly impact the total demand for the site. When examining the results of the three scenarios, one notices that the land requirements range from 88 to 287 ha in the first five years and from 690 to 3,258 ha in year 20. A similar variation is seen for the other indicators.
The main results of the demand forecast are presented below.

<table>
<thead>
<tr>
<th>Scenario analyses – results</th>
</tr>
</thead>
</table>

### Table 6.6 Scenario analysis – main results.

<table>
<thead>
<tr>
<th></th>
<th>Base case</th>
<th></th>
<th>Conservative case</th>
<th></th>
<th>Aggressive case</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 5</td>
<td>Year 20</td>
<td>Year 5</td>
<td>Year 20</td>
<td>Year 5</td>
<td>Year 20</td>
</tr>
<tr>
<td>Total demand for land by industry (ha)</td>
<td>173</td>
<td>1,619</td>
<td>88</td>
<td>690</td>
<td>287</td>
<td>3,258</td>
</tr>
<tr>
<td>Total number of companies</td>
<td>86</td>
<td>809</td>
<td>44</td>
<td>345</td>
<td>144</td>
<td>1,629</td>
</tr>
<tr>
<td>Total number of persons engaged</td>
<td>12,787</td>
<td>89,512</td>
<td>6,560</td>
<td>38,771</td>
<td>21,266</td>
<td>177,458</td>
</tr>
</tbody>
</table>

**Note:** The calculated number of companies is to be interpreted in this way: This is the number of companies of average (2008) size which will choose to locate in the SEZ.

**Source:** Consultant’s assumptions based on the industrial analysis in Technical Paper 1.

Based on the description of the existing situation in Chapter 2 and to facilitate the needs assessed in the demand forecast, a number of infrastructure requirements can be determined:

- Today, there are no specific plans to upgrade the road between Tegata and Bagamoyo to four lanes, which may be necessary in the future given the general traffic growth, the traffic generated due to the opening of the improved Msata-Bagamoyo road, and new traffic from the port and the developed SEZ area.

- Bagamoyo SEZ will need an entirely new road network which should be developed with on-site and off-site utility requirements. The new roads on site will generally include primary distributors, district distributors, local distributors and access roads within the specific components of the site.

- New water and sanitation facilities are required for Bagamoyo SEZ. Currently, all on-site infrastructure for water supply, wastewater and solid waste is poor or non-existent.

- Most water, sanitation and solid waste facilities need to be developed as the system today is poor or non-existent. The drainage system should mainly be a separate storm water system and separate sanitary sewerage. The systems should not be combined in order to avoid escalation of costs. The amount of wastewater depends on the water consumption pattern with a withdrawal depending on type of entity. Industrial wastewater should be treated separately to ensure acceptable quality and to avoid overloading the sewage treatment system.

- The effluent treatment is recommended to be waste stabilisation ponds, which is the best choice for warm countries as Tanzania.

- The need for power depends on the type and number of industries to be located in the area. However, it is assessed that the present power supply is insufficient. It is important to ensure a constant power supply to the area as this could be a selling point for industry. Security of the power supply includes the ability to restore the network following faults, during construction etc. To further ensure the power supply in the SEZ area, communal gas or diesel driven generators could be supplied instead of each plot having its own
generator. Other alternative power supplies such as wind power and solar energy can be suggested for the future.

› The need for gas for production depends on the type and number of industries to be located in the area. There is no available gas-distribution near Bagamoyo SEZ at the moment. A gas-pipeline to Karmal Industries is planned.

› Street lights should be provided along all main roads and within the compounds of the industrial areas.

› A fibre cable network should be constructed and connected to the fibre cable network in Dar es Salaam. It could be constructed in connection with the roads.

6.6 Land Requirements for Non-Industry Purposes in Bagamoyo SEZ

In addition to land planned for industrial purposes, the master plan includes areas for housing development. Furthermore, land is allocated for institutional, commercial and recreational/tourism purposes as illustrated in Table 6.8 below. In total, 2,030 ha are allocated for non-industry activities.

Residential

Taking into account that the SEZ is a limited area with much space allocated for industrial, port and commercial activities, the density should be high for residential areas. We assume a plot size of 500 m² for the average household size of four persons.

The total area of land for housing development in the SEZ, by 2030, is expected to be a maximum of 1,000 ha with 930 ha in the residential zone and about 70 ha in the recreational and tourism zone along the coast. This amount of land does not include roads network, parking, open spaces, and public facilities that are also proposed in the residential areas.

The area for road network, parking, open space and public facilities is expected to be about 300 ha in the residential zone and 30 ha in the recreational and tourism zone. Public facilities include markets, shops, public buildings, service trade, religious areas, library, community halls and cemetery sites.

In total, about 1,330 ha are proposed for residential development and public facilities by 2030. Part of the residential area can serve as urban recreational areas if the need for housing turns out to be smaller than expected.

Community facilities

The populated neighbourhoods should have access to community facilities such as educational facilities (nursery schools, primary schools, secondary schools, college and universities); health facilities (dispensary/clinic, health centre, and hospital); recreational facilities (open spaces such as children playground areas, play fields, sports fields and parks); and public facilities (market, shops, service trade, religious areas, library, community hall and cemetery sites). The areas should be accessible from vehicular collector roads and walking/cycling paths.
Educational facilities are based on calculations in Technical Paper 2 which states that around 12,000 children will attend school in the area by 2030. Of these, a share 60 per cent will be in primary school, which is about 7,200 people with 95 per cent enrolment (about 6,840 people), and 40 per cent in secondary school, which is about 5,800 people with an estimated 40 per cent enrolment (about 1,920 people). The planning space standards mean that one primary school is to accommodate about 280 to 1,120 students within an area of 1.5 to 4.5 ha. Therefore, 9 to 27 ha have been proposed for primary schools within the area. Furthermore, the planning space standards mean that one secondary school is to accommodate 320 to 640 students within an area of 2.5 to 5.0 ha. Therefore, 7.5 to 15 ha have been proposed for secondary schools in the area.

The planning space standards mean that a college is to accommodate 300 to 6,600 students within an area of 1.5 to 3.0 ha, while the planning space standards mean that a university is to accommodate 600 to 800 students within an area of 8 to 40 ha.

Health facilities included in Bagamoyo SEZ consist of dispensaries and/or health centres. The planning space standards for a dispensary/clinic serving 7,000 to 10,000 people are 3,500 to 5,000 m², while for a health centre serving 10,000 to 25,000 people, it is 0.5 to 1 ha. Therefore, 3 ha have been proposed for three health centres within the area.

In total, 200 ha have been set aside for institutional and educational activities in 2030.

Public facilities in Bagamoyo SEZ include markets, shops, public buildings, service trade, religious areas, library, community halls and cemetery sites. However, the planning for these services has been included in the residential areas. Table 6.7 presents the recommended space standards for each type of public facilities. In total, 330 ha have been proposed for public facilities.

Table 6.7  Space standards for public facilities

<table>
<thead>
<tr>
<th>S/N</th>
<th>Type of Facility</th>
<th>Gross area/person</th>
<th>Neighbourhood level (to serve 5,000 people)</th>
<th>Community level (to serve 20,000 people)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Market</td>
<td>0.4–0.5 m²</td>
<td>1,200–2,500 m²</td>
<td>0.5–1.5 ha</td>
</tr>
<tr>
<td>2</td>
<td>Shops¹²</td>
<td>0.8–1.0 m²</td>
<td>250–500 m²</td>
<td>1.0–2.0 ha</td>
</tr>
<tr>
<td>3</td>
<td>Public buildings</td>
<td>0.25–0.5 m²</td>
<td>800–2,500 m²</td>
<td>0.32–1.5 ha</td>
</tr>
<tr>
<td>4</td>
<td>Service trade</td>
<td>0.4–1.0 m²</td>
<td>2,000–5,000 m²</td>
<td>0.16–0.5 ha</td>
</tr>
<tr>
<td>5</td>
<td>Religious areas</td>
<td>0.3–0.4 m²</td>
<td></td>
<td>0.2–0.4 ha</td>
</tr>
<tr>
<td>6</td>
<td>Library</td>
<td>0.15–0.2 m²</td>
<td></td>
<td>0.15–0.2 ha</td>
</tr>
<tr>
<td>7</td>
<td>Community hall</td>
<td>0.2–0.4 m²</td>
<td></td>
<td>0.2–0.8 ha</td>
</tr>
<tr>
<td>8</td>
<td>Cemetery sites</td>
<td>0.5–1.5 ha</td>
<td></td>
<td>2.0–6.0 ha</td>
</tr>
</tbody>
</table>


¹² Five to ten plots for shops are recommended in the commercial centre and others are recommended at corner plots within residential areas.
Commercial activities include shops, retail, travel agents etc. These activities are generally clustered in a commercial centre, which is located in the central part of an area and requires little land. The number of shops etc. depends largely on people present in the area. The master plan has allocated 100 ha for commercial activities in 2030.

Tourism plays an increasing role in Bagamoyo where, in particular, cultural, beach and conference facilities have been developed in and around Bagamoyo. Bagamoyo has the ambition to become a tourist hub along the coast of Tanzania. The development of a tourism centre in the area has both created economic and development opportunities and added new complexity to the key economic and social challenges facing the area. Further development of hotels is envisaged along the beautiful and unpolluted sandy beaches in Bagamoyo SEZ.

Apart from acting as a catalyst towards development of the SEZ, hotel developments along the beach are also expected to promote further development and growth in the tourism industry in Bagamoyo. The demand for beach plots for the tourism industry along the site is very high. Investors include the Local Government Provident Found (LAPF), which has requested about 30 ha. To catch this wave, the master plan has set aside 400 ha along the beach for tourism and recreational developments. This amount of land caters for the present and future needs.

6.7 Results of the Overall Forecast for Non-Industry Activities

The following table summarises the need for land for the various segments as discussed above. A total area of 2,030 ha in year 2030 is proposed for housing, public facilities, commercial and tourism purposes. The proposed area is larger than the immediate need, but it is considered important to designate an area that may meet the demands of a potential growth in both housing and commercial activities.

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (persons)</td>
<td>7,200</td>
<td>23,100</td>
<td>45,000</td>
<td>75,000</td>
</tr>
<tr>
<td>Residential area/housing (ha)</td>
<td>265</td>
<td>490</td>
<td>820</td>
<td>1,000</td>
</tr>
<tr>
<td>Institutional/educational (ha)</td>
<td>60</td>
<td>120</td>
<td>160</td>
<td>200</td>
</tr>
<tr>
<td>Commercial (ha)</td>
<td>25</td>
<td>50</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>Public facilities, roads, open space, etc. (ha)</td>
<td>120</td>
<td>200</td>
<td>270</td>
<td>330</td>
</tr>
<tr>
<td>Recreational/tourism (ha)</td>
<td>180</td>
<td>260</td>
<td>340</td>
<td>400</td>
</tr>
<tr>
<td><strong>Total (ha)</strong></td>
<td><strong>650</strong></td>
<td><strong>1,120</strong></td>
<td><strong>1,670</strong></td>
<td><strong>2,030</strong></td>
</tr>
</tbody>
</table>

Bagamoyo SEZ Master Planning

In this chapter, the concept of the master plan is developed. It describes where the different functions are placed and why, and how they can interact. The master plan concept is the backbone for the land use plan in which the various land uses are outlined.

Bagamoyo SEZ will provide a broad range of land uses. The overall land uses are industry, port, residential, commercial, institutional, recreation and tourism and open space/protected areas. These functions will be organised according to a master plan concept, which is explained in the following chapter.

7.1 Planning Principles for Bagamoyo SEZ

The long-term planning principles provide the guiding framework for the preparation of the master plan for Bagamoyo SEZ. In addition, the planning principles for the development of Bagamoyo SEZ will incorporate the competitive advantages of the location. These competitive advantages of Bagamoyo SEZ include:

› Proximity to raw materials and resources for production
› Access to the existing and potential physical infrastructure such as trunk roads, port, airport and railway
› Proximity to domestic and international markets.

These competitive advantages are the starting point for the formation of planning principles and visions for the development of the SEZ area.

Planning principles

The planning principles that have been used to design the master plan for Bagamoyo SEZ are to:

› Plan in a comprehensive, strategic and phased manner
› Provide modern services, facilities and infrastructure at a competitive price
› Create a master plan with a flexible plot configuration to provide a variety of development options to meet changing demands over time
Minimize all land use conflicts.
› Optimize the possibilities of interaction between the different functions in the SEZ
› Create a variety of investment opportunities
› Optimize the leasable land ratio for the site
› Design the site as a multi-modal transportation platform
› Plan in an eco-friendly, low-carbon manner incorporating green technology into the master plan wherever possible
› Maintain the site to ensure high quality and investment opportunities
› Ensure that the site is designed to provide security to its residents and tenants
› Design in a manner that will encourage PPP options
› Create a coherent urban community

7.2 Proposed Land Uses in the SEZ area

For the development to be successful, it is very important that the future land uses in the Bagamoyo SEZ area are well integrated and support each other in the development process and that the impact from adjacent land use is minimal. Thus, the planning process must take its point of departure in the most suitable land uses for the SEZ.

7.2.1 A Positive List of Permitted Land Uses in the SEZ Area

In Bagamoyo SEZ, the permitted land uses are:
› **Industrial.** A broad range of light, medium and heavy industries are proposed for the site.
› **Port.** Port facilities and port-related businesses which can make use of the unique location in the port area.
› **Residential.** Residential areas, which can accommodate some of the labour force which will be employed in the area. The residential areas must contain different housing types in order to support all investors and residents of the zone.
› **Commercial.** All commercial and convenient retail activities and financial services and regional headquarters to support the industrial component of the project are permitted.
› **Institutional.** All institutional facilities such as schools, universities, educational, vocational or training facilities, ICT related activities, science and technology activities, health clinics, hospitals, police and fire stations, government offices, libraries, community centres, child care facilities, mosques or religious facilities are permitted.
› **Tourism and recreation.** The recreational potential of the area must be exploited by establishing tourism facilities such as hotels, restaurants, marinas, golf courses, entertainment and recreational facilities.

› **Open space.** All types of open space are permitted and, in some cases, required.

### 7.2.2 Negative List of Uses for Industrial Component

In Bagamoyo SEZ, some land uses will counteract or diminish the dynamics and power of the SEZ:

› **Highly polluting and noisy industries.** Industrial sectors which will negatively affect the overall health and welfare of the SEZ are not permitted.

› **Oil and gas tanks.** which require large safety zones.

› **High-risk industries.** Production industries which demand special safety zones are not likely to be accommodated within the broad range of utilisation of a SEZ.

› **Urban sprawl (low-density housing).** Primarily, the area is designated for business purposes. Hence, structures for residential purposes must be gathered in a relatively densely populated area on the outskirts of the area. Some low-density, attractive housing for managers and others will have to be permitted in some areas.

› **Illegal and hazardous sectors** deemed by the government are not permitted in the zone. e.g. weapons manufacturing industries and illegal drugs

### 7.3 Bagamoyo SEZ Master Plan Concept

The master plan ensures that Bagamoyo SEZ becomes a well functioning urban community with mixed functions that support each other. Most of the functions are related to industry. Industrial areas laid out in large units are situated in order to ensure fewest possible environmental impacts. The area, as a whole, will include the following land designations: Industrial, port, rail/marshalling, commercial, administration, institutional, residential and recreational.

The development of the Bagamoyo SEZ land use plan will be based on this master plan concept and planning principles which develop, based on the competitive advantages of its location, from the existing main road network (trunk road) and into the area.

Industrial

The industrial component is the backbone of Bagamoyo SEZ. The location must be accessible, easy to develop, with only few constraints and placed in an area where about 4,000 ha can be acquired. Therefore, the industrial component is located in the flat and dry area north of the Bagamoyo-Dar es Salaam trunk road and at a short distance from the coastal area.
To ensure a harmonious development, heavy industries must be concentrated in the area closest to the Bagamoyo-Dar es Salaam trunk road and must not directly border on environmentally sensitive areas such as residential and recreational settlements. Hence, the concept designates a large capacity in the southwest part of the area where it is possible to allocate buffer zones (consisting of, for instance, small and non-polluting industries) towards neighbouring areas. To avoid investing more in infrastructure than necessary, the industrial areas must develop from the Bagamoyo-Dar es Salaam trunk road towards the coast.

It is important that Bagamoyo SEZ is flexible in regard to future land use needs. Most industrial areas will be designated with a single application and one district is designated with the possibility of dual application in order to comply with future demands. The intention is not to utilise the areas for mixed purposes.

Port

Farthest north, along the coast, an area is reserved for a new port which in time can be a port of departure for the port of Dar es Salaam. From day one, the new port and its area and functional requirements are to be integrated into Bagamoyo SEZ.
Functionally, the new port must be linked to the other functions in the area and good extensibilities for the port must be ensured, if necessary.

The location of the planned port has potential for recreational and tourist activities. If the port is not realized in this area, the area can alternatively be used for recreational purposes and tourism.

Rail/marshalling
The master plan concept designates an area between the future port and the industrial area for marshalling and intermodal transport. It will be a platform for a future railway connected to the railway network approximately 25 km away.

Commercial
The master plan concept designates administrative service centres which will ensure easy access for industries and residents to service facilities. Geographically, the service centres are visible from the Bagamoyo-Dar es Salaam trunk road, which strengthens the awareness and identity of the area.

The administrative service centre must comprise high-quality service facilities for the private sector in Bagamoyo SEZ and must function as a one-stop-shop for businesses and investors. The administrative service centres must also accommodate police and fire department facilities, health centres as well as culture and entertainment facilities.

Commercial functions can be naturally located in association with the administrative service centres and along the trunk road near the residential area.

Residential
The master plan concept programs a primarily residential area in the western part of Bagamoyo SEZ and a low-density residential area along the coast. The residential area in the western part of the area has direct access to the Bagamoyo-Dar es Salaam trunk road and recreational natural resorts. The natural resorts with planted valleys bring identity and quality to the residential areas while creating a natural border or buffer zone towards the industrial areas. Along the coast, highly attractive settlements are available near the coast.

The consultant's demand forecast shows a total population of a maximum of 75,000 in Bagamoyo SEZ\(^{13}\). The wish is not to have the residential areas occupy large land areas, which explains a high building density within the residential areas of Bagamoyo SEZ.

Institutional
An area designated for institutional purposes in terms of university or science and technology activities is desirable. The master plan concept proposes an area for institutional purpose in connection with the western main entrance to Bagamoyo SEZ and the primary distributor road to the port, and areas along the coast for institutions which need a coastal location. The area close to the main entrance is well situated in terms of overall infrastructure, and the area east of the port has a unique location close to nature and recreational areas. Functions such as university or science parks must have close ties to the businesses in the area and the

\(^{13}\) Cf. section 6.2.
possibility of establishing programmes for applied research, creating synergies between businesses and research environments should be looked at. The other area for educational purposes along the coast is where the Mbagani Fisheries Institute is currently located and where the Uongozi Institute plans to build their new institution. A location near the coast is important for both institutions.

**Infrastructure**

The master plan concept is based on the overall road link between Bagamoyo and Dar es Salaam to ensure good accessibility for future growth in the area. Over time, the Bagamoyo-Dar es Salaam trunk road should be upgraded to four lanes. When the need arises, a primary distributor road will be established along the coast.

A new primary distributor road along the coast delimits the port zone and the recreational and tourist park from the industrial areas. The structural plan designates an area for industrial purposes in the area southeast of the new road along the coast with a connection to the trunk road.

The infrastructure will be designed deliberately in a grid structure which minimizes the use of land and length of structures, this way promoting eco-friendliness.

Other infrastructure such as water supply, electricity, fibre cable network etc. is to be brought into the area in a zone around the Bagamoyo-Dar es Salaam trunk road and will be distributed into the SEZ area from there.

**Recreation/tourism and open space**

A zone along the coast is designated for recreational purposes and tourism. There are plans for hotels, entertainment facilities, leisure activities, golf courses, shopping areas, restaurants and support amenities and services. The zone for recreational use and tourist parks encompasses the small islands and wetlands along the coast. The coastal zone ensures utilisation of the great natural capacities, by access to open space such as beaches, water, mangrove forests, plains and green undeveloped areas, for tourism and residential purposes.

**Conservation (nature)**

The master plan concept respects the natural landscape features in the area and suggests methods to utilise these features. Two valleys can be found in the western part of the area and the plan designates them as green conservation belts. These areas are important nature/conservation zones and can operate as wildlife corridors for flora and fauna. Finally, they can function as natural buffer zones between different land uses within the area. The recreational and scenic area towards the coast will be allocated as recreational, tourism and residential zones. The mangrove forests, swamps and salt ponds will be preserved.

7.4 **Bagamoyo SEZ Designated Land Use**

The master plan establishes the overall land use of Bagamoyo SEZ. Particular attention is given to the project's industrial component. Industrial areas are located north of the trunk road (Dar es Salaam-Bagamoyo). The industrial area will, as a special economic zone, be fenced, both for customs and security reasons, and the area can only be accessed through manned gates. The port and marshalling area is also fenced in. Residential and commercial areas etc. will be outside any future fenced-in parts of the SEZ.
The land use of Bagamoyo SEZ is based on a road system allowing a high degree of accessibility for industrial production. A coherent system of primary, district and local distributor roads ensures entry to the industrial areas, and together with a high quality utility supply and security, investors have first-class conditions for their activities in Bagamoyo SEZ.

Development strategy  
The backbone of the development on the Bagamoyo SEZ site is the trunk road, and therefore the main entrances to the SEZ are located at the trunk road.

Extending new industrial areas from this starting point in phases is in principle an ‘inside out’ strategy. It allows one to be flexible and realistic in the inclusion of new areas for industrial plots, depending on the actual demand in the coming years.
Fencing is required to achieve the benefits of custom regulations and security in the industrial areas and in the port and marshalling areas. Therefore, fencing possibilities are a key issue in the land use planning.

**Industrial**

The industrial areas are situated centrally in Bagamoyo SEZ, however, with a larger concentration in the southeast part of the area. The programming of the area ensures that the industrial components are arranged in well-defined industrial parks and they are intended for PPP development. Green belts and roads separate the industrial parks from each other. A district distributor road feeds an industrial park.

![Figure 7.3](image)

Most of the industrial parks will in the future detailed planning be designed for one primary land use, and one district can be programmed for both a primary and a secondary land use. The secondary land use must only be used if future needs so require, or if the primary use cannot be realized. Focusing on one primary land use in a district allows for synergy and cooperation between related companies. This future programming will meet future needs which cannot be foreseen today.

The industrial component includes two industrial categories: Heavy, light and non-polluting industries which have different impacts on the neighbouring areas.

Both categories may require transport-intensive facilities. The general principle is that light and non-polluting industries are placed in areas close to environmentally sensitive land uses.

**Zoning of industries**

To avoid environmental pollution between industry and other land uses, a zoning of the industrial areas is incorporated. It is also important that the most harmful types of industry do not affect other industrial areas negatively.
The highest concentration of industry occurs in the southeast area of Bagamoyo SEZ. This area has direct access to the Bagamoyo-Dar es Salaam trunk road from the new primary distributors and district distributor roads. The area close to the trunk road will be ideal for environmentally harmful industry and will be surrounded by a buffer zone of small and non-polluting industries.

To avoid that environmentally sensitive land uses, such as the recreational and tourism zone, are affected by noise and odour, transport-heavy industry is designated for the area closest to the Bagamoyo-Dar es Salaam trunk road and at a distance from the Mkusa River and the tourist road.

The industrial zones near the residential zone are designated for small and non-polluting industries and will function as a buffer zone.

The transport corridor between the port and the Bagamoyo-Dar es Salaam trunk road is designated for transport-intensive industry. The buffer zone between these areas and the surrounding environmentally sensitive land uses will be in the form of a green belt.

Fencing and gates

The entire industrial area is fenced and gated for customs and security reasons. There should be as few gates as possible as resources are needed to man the gates, however, the area must still be accessible. There will be five gates with customs and security control – three at the main entrances from the trunk road and two from the coastal road – when established. While the area is under development, temporary fences must surround the developed industrial parks.
The total area for the industrial components is 4,020 ha, including green belts and roads. A subdivision of the industrial area is described in Chapter 9.

**Port**

The port area is located at the coast to the north. The feasibility study recommends an area for port development which is incorporated in this plan.

Besides facilities directly related to the port (for instance, quays, loading and unloading facilities and transport areas), the area may contain industrial activities which can benefit economically from the close relations to the port (processing, export, import, service etc.).

The port authority has already made a draft plan for a new port at Bagamoyo SEZ and estimated the land need at 1,000 ha.

The port will entail a number of spin-off/derivative activities which relate to the port operations. These activities and functions, such as loading and unloading cargo, commodities, manufactured products etc. to neighbouring countries like Burundi, Rwanda, Uganda and DRC, are not likely to emerge in Bagamoyo SEZ without the port. Potentially, this may include companies that are directly involved in transhipment and domestic logistics business, including logistics service providers and transport companies.
In the long perspective, developing a port with good road and rail access in Bagamoyo SEZ can potentially make Bagamoyo an important multi-modal business hub. Such development will release a potential demand for land for warehouses, logistics services etc. This could include short-term storage, warehousing facilities, transport services (distribution for Dar es Salaam, transport terminals, repair and maintenance services). But logistics services could also include very specific services which in reality are unrelated to the development of industry activities in Bagamoyo SEZ. One example, which is often referred to, is import of vehicles via a new port in Bagamoyo for sale all over Tanzania. Furthermore, third-party cold storage facilities for minor companies could also be developed, for instance, for agro-business, fish and meat products.

The demand for land for logistics services will be closely related to port and rail development, rather than to the development of the manufacturing sub-sectors as such.

The port area will be fenced for security and customs reasons. The port authority will be responsible for planning of the internal area and the fencing. 1,000 ha are laid out for port facilities.

In close connection to the port, an area for marshalling is laid out. The area will be on the line of a new rail connected to the existing railway 25 km southwest of Bagamoyo SEZ. The marshalling area will serve both the port and the industry in the SEZ. Besides several tracks, the area could encompass storage of goods and containers and handling facilities. The area is 200 ha.
Residential areas

The need for residential areas is met by designating primary areas for dense housing in the western part of the SEZ area and smaller areas for low-density housing along the coast together with hotels and recreational areas. Areas are not yet designated for settlements along the coast, but the purpose will be to enable attractive settlements with scenic qualities. This helps to promote a variety in the supply of settlements.

This ensures possible settlement for labour force close to the industrial development. Residential city areas are delimited from industrial areas by natural buffer zones through the existing valleys, which in the land use plan are designated for open space and green belts.

The residential areas should comprise a varying range of housing facilities accommodating all social groups. The land needed for housing varies depending on the population density. The Ministry for Lands has defined plot sizes according to the following segments:

- 400 to 800 m² high density
- 801 to 1,600 m² medium density
- 1,601 to 4,000 m² low density.

Taking into account that the SEZ is a limited area with much space allocated to industrial, port and commercial activities, the density of residential areas should be high. In the primary residential areas in the western part, we estimate a plot size of 500 m² for individual housing, but it is proposed that most of the area be developed as housing estates. High-density areas will include blocks of flats with several apartments, and two-story row houses. Medium-density areas will include row
houses and semidetached houses. The coastal area will be low-density with villas on plots of over 1,600 m².

By 2030, the total area of land for housing development in the SEZ is expected to be at a maximum of about 930 ha in the residential zone and about 70 ha in the recreational and tourism zone along the coast. However, these areas of land do not include road networks, parking, open spaces or public facilities that are also proposed in the residential housing areas.

The area for road networks, parking, open spaces and public facilities is expected to be about 300 ha in the residential zone and 30 ha in the recreational and tourism zone. Public facilities include markets, shops, public buildings, service trade, religious areas, library, community halls and cemetery sites.

About 930 ha are proposed for residential development and public facilities within the residential areas by 2030. In addition, about 70 ha for residential development and public facilities are proposed for the tourism zone. Part of the area for housing can serve as urban recreational areas if the need for housing turns out to be less than expected.

The existing settlements of Zinga, Kiromo, Pande, Mingotini and Kondo will all be transformed to other land uses. The residents of the existing settlements can be resettled in the new urban communities in Bagamoyo SEZ or in urban communities around Bagamoyo SEZ. The buildings in the existing settlements are expected to be removed as the area's transformation takes place.

Institutional The land use plan designates areas for institutional purposes close to the main entrance to Bagamoyo SEZ south of the Bagamoyo-Dar es Salaam trunk road; on the coast west of the port for the Mbegani Fisheries Institute; and east of the port for the Uongozi Institute and other institutions which need a coastal location.

Today, the Mbegani Fisheries Institute is located partly on the land designated for the new port and most of the buildings are located in this area. This means that the buildings have to be relocated to the western part of the institute's area.

Concurrently with the finalisation of the SEZ master plan, another master plan for the Uongozi Institute is being prepared. The location of the institute complies with that set out in the Bagamoyo SEZ master plan. East of the Uongozi Institute, about 175 ha are designated for other institutions working with research and development e.g. ICT.

The area south of the trunk road is designated for educational institutions such as a university, a high school, science parks and vocational or technical training. The area closest to the residential area is large and able to host a large number of facilities for educational purposes or for support functions serving industries on the SEZ site. Alternatively, the area may be changed into a residential zone if the future development shows that the entire area is not needed for educational purposes.
The area for institutional and educational purposes at the coast has good access to the overall road network.

Other institutional components will include ICT related activities, science and technology activities, health facilities (health centres, dispensary/clinic), fire stations, police stations, community centres, public utility etc. These facilities must be well situated at the right distance from residential areas and secure in a well-protected area.

The total area for institutional activities is proposed to be about 900 ha. Besides land allocated for the Uongozi Institute and the Mbegani Fisheries Institute close to the coast, additionally, 300 ha are allocated for institutional purposes south of the trunk road.

Recreation/tourism

The master plan concept designates areas along the coastline for recreational purposes, entertainment, some residential buildings and hotels. Hotels on the coast are expected to be established at the same time as phase 1 of the industrial component.

The demand for beach plots for the tourism industry along the site is very high. Some of these investors include the Local Government Provident Found (LAPF), which has requested an allocation of about 30 ha. The area between the port area and the area for institutional/educational purposes (Uongozi Institute) fulfil the demand for beach plots and are attractive for recreational, hotel and residential activities. To follow this trend, the land use plan sets aside about 380 ha along the beach for recreational purposes, hotels and high-class residential developments. This volume of land caters for the present needs as well as the future needs.
The coastal area east of the institutional area is scattered with mangrove forests, swamps and salt ponds and is more difficult to develop. The recreational activities in this area could be golf courses and hotels based on activity in the rare biotopes. In the land use plan, it is characterized as a potential area for further development. This area is 560 ha.

Within these two areas, it is possible to lay out areas which create the framework for new green technologies for products and services related to the locations close to the coastline. The traditional salt works in the area can still function as a type of activity that has to be on the coast.

To bring quality and identity to the Bagamoyo SEZ area, it is important that open spaces and green areas such as parks and recreational areas are in place and maintained. The open space is a vital element in a highly developed site.

The master plan encourages green linkages in the western part of the area along the two characteristic valleys in the landscape. Along the coastal road and along the port area, an open space is maintained to create a buffer between the industrial parks, the port and the recreational and residential facilities near the coast.

The area closest to the coast is protected by a 60-metre coastal zone and cannot be developed. This secures an unspoiled coastline. In the zone behind this undeveloped area, an area is designated for the erection of hotels, hotel facilities and low-density residential buildings. The position near the beach and the water will be very attractive.
In the lowlands, swamps and ponds are found and designated as conservation areas. In this area, landscape improvement should be undertaken to add new qualities. However, it is important that this does not spoil or harm nature. The green connections serve to create green landscape connections for flora and fauna between the areas around the SEZ. They also create landscape qualities in the area for the new settlements.

The land use plan has laid out a series of green belts around industrial areas, where it is necessary to ensure a distance to environmentally sensitive land uses. Thus, along all new settlements, green belts are established to ensure visual blurring and environmental distance. Along the Mkuza River, green belts are established and the road along the river is held at a distance of more than 30 metres from the riverbanks to preserve the surrounding areas of the river. The green belts are the ‘breathing lungs’ of the SEZ area.

The total area for open space, recreational and protected areas will be about 800 to 1,000 ha.

The service areas are multifunctional city centres, which can serve the local residents and the industrial activities.

It is expected that commercial activities will be developed as the population and industrial activities increase. Commercial activities include shops, retail, travel agents, real estate agents, banks etc. These activities are generally clustered in a commercial centre located in the central part of an area and require little land.
Areas have been set aside for commercial purposes in three locations north of the Bagamoyo-Dar es Salaam trunk road and a large area south of the road.

Service functions designated directly for the industrial parks are situated in the commercial areas near the entrance gates to the industrial area. Those commercial centres may contain commerce and retail, police and fire department facilities, health centre, culture and entertainment as well as administrative functions for EPZA and customs, providing services to investors and the companies in the industrial area.

At this point, there should also be high-quality public transportation connecting the area to Dar es Salaam by bus and, perhaps in time, by rail.

The number of shops etc. depends to a large degree on people being present in the area and the needs of the port activities and industries.

The total area for commercial activities is proposed to be 380 ha.
7.5 Summary of Land Uses

Synthesising the review of the individual land use components, the following table gives an overview of land needed for the different activities in Bagamoyo SEZ.

Table 7.1: Land needed for activities in Bagamoyo SEZ.

<table>
<thead>
<tr>
<th>Use</th>
<th>Area size</th>
<th>Percentage area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bagamoyo SEZ</td>
<td>9,800 ha</td>
<td>100 %</td>
</tr>
<tr>
<td>Industry</td>
<td>4,020 ha</td>
<td>41 %</td>
</tr>
<tr>
<td>Roads in the industrial area</td>
<td>540 ha</td>
<td>6 %</td>
</tr>
<tr>
<td>Port</td>
<td>1,000 ha</td>
<td>10 %</td>
</tr>
<tr>
<td>Marshalling</td>
<td>200 ha</td>
<td>2 %</td>
</tr>
<tr>
<td>Rail network</td>
<td>30 ha</td>
<td>0 %</td>
</tr>
<tr>
<td>Residential</td>
<td>1000 ha</td>
<td>10 %</td>
</tr>
<tr>
<td>Commercial</td>
<td>380 ha</td>
<td>4 %</td>
</tr>
<tr>
<td>Institutional</td>
<td>900 ha</td>
<td>9 %</td>
</tr>
<tr>
<td>Recreational, tourism</td>
<td>380 ha</td>
<td>4 %</td>
</tr>
<tr>
<td>Recreational, potential tourism</td>
<td>560 ha</td>
<td>6 %</td>
</tr>
<tr>
<td>Open space/traffic areas</td>
<td>465 ha</td>
<td>5 %</td>
</tr>
<tr>
<td>Swamps/ponds</td>
<td>325 ha</td>
<td>3 %</td>
</tr>
</tbody>
</table>

Source: Consultant’s summary of the previous sections
8 Infrastructure

In this chapter, the infrastructure, both the traffic system and the utilities, is described for Bagamoyo SEZ, with focus on the industrial component.

The proposed infrastructure for Bagamoyo SEZ is based on available data and information analyzed in regard to modal split, car ownership and main transportation modes for workers which are likely to be represented within the companies in the SEZ.

It is important that the infrastructure and utilities be properly planned and implemented within Bagamoyo SEZ in order to ensure high-quality and safe transportation systems, infrastructure and utilities such as power, water and telecom. Without the abovementioned, the SEZ will not be competitive in regional markets.

The infrastructure should be aligned to the development of the project and therefore it is suggested that the project be divided into phases to match planned development. The first phase of establishing the SEZ accounts for a rather small proportion of the total project. Thus, the first phases of the infrastructure should – both in scope and capacity – be designed to cater for the first phase, but at the same time prepare for future capacity and extension.

Developing Bagamoyo SEZ in phases reflects the desire to locate the early stages, as close as possible, to existing infrastructure as described in chapter 6.

This means that land for the first phase should be allocated close to the trunk road and developed from this point northward and should be correlated to actual demand in order to avoid overdevelopment of infrastructure.

8.1 Traffic System

Mode of transport (modal split) has to be taken into account when planning the infrastructure. In the future Bagamoyo SEZ, it is possible to make modal split between bicycles on paths, motorized traffic on roads, railways, waterways from the port and airplanes from a airport close to the SEZ.
Motorized transportation is relatively low in Tanzania, the main reason being limited car ownership. However, bicycle ownership is relatively high. This means bicycling (and walking) is the most common means of transport in Tanzania, especially in rural areas.

Furthermore, the proposed infrastructure should strive to achieve an acceptable level of road safety. The risk of being killed in a traffic accident in Tanzania, proportionate to the number of vehicles on the road, is 20 to 30 times higher than in the USA and many countries in Western Europe. Passengers in cars, buses and lorries are those most frequently killed. Pedestrians are the second group most frequently killed, making up approximately 38 per cent of total fatalities and 25 per cent of all injured. Bicyclists are the third group most frequently killed.

A major reason for the relatively high percentage of pedestrians and pedal cyclists involved in road accidents is the fact that they are forced to walk/bike on the carriageway as there are no pavements or cycle paths.

Speed-reducing measures within the road infrastructure is another topic which should be given special consideration during the planning phase.

Roads

The traffic system in Bagamoyo SEZ will be connected to the Bagamoyo-Dar es Salaam trunk road. Internal roads in the area will generally include primary distributors, district distributors, local distributors and access roads within the designated land uses (industrial, commercial and residential areas).
The primary distributor road will connect all areas of the SEZ to the trunk road and to Bagamoyo. The primary distributors will only be connected to few district distributors, in order to ensure maximum flow and traffic safety. This road type, in particular, should cater to all means of transport, vehicles/motorised transport, bicyclists and pedestrians and should ensure that the highest possible safety measures be taken. In the early stages, the design for primary and district roads with two or four lanes is considered to have sufficient capacity.

The road infrastructure in Bagamoyo SEZ outlines a main connection (primary distributor road) to the port, which is accessed from the trunk road by the western entrance to the SEZ. From the eastern entrance to the SEZ, a main connection (primary distributor) runs along the Mkusa River to the recreational and tourist area along the coast. In order to minimise traffic congestion, the main distributor to the recreational and tourist areas will be separate from, and will have no access to, the industrial area. Industrial transport can be prohibited on the public road, if necessary.

Primary distributor roads connect the different industrial areas with the trunk road, and district distributors connect the industrial areas internally, while local distributors can distribute the traffic in the smaller districts. Access roads provide access to the plots. On the master plan level, only the lay out of the primary and district distributors is designated. Options for local distributors and access roads are described in Technical Paper 3. All the road networks in the area are designed to be efficient, to mitigate possible transportation problems such as congestion and safety, and to be able to handle heavy lorries, if required. Due to the few intersections with other roads, the speeding and thus road accidents would be a high risk on primary distributor roads. To ensure as safe roads as possible, roundabouts are introduced on the main crossings between primary and district distributors. Furthermore, staggered intersections could be a safety solution – although these intersections do not have the same safety effects as roundabouts, albeit they are safer than four-leg intersections.

Compared to other junction forms (with or without traffic lights), the main safety advantages of roundabouts are:

- The actual speed of the drivers, both with and without right of way, is (very) low. The lower the driving speeds, the lower the risk of (serious) conflicts or (injury) accidents.

- On a traditional junction, the number of potential conflict points is multiple. On a roundabout, there is one conflict point for each adjoining road.

The road system is also designed to address the fact that the industrial area has to be fenced and gated. Only five manned gates are planned to have access to the trunk road and to the port. The road system allows for planning of another four gates if more gates are needed. These gates will also function as unmanned emergency gates and be connected to the road system.

To ensure road safety, street lights should as a minimum be provided along all main roads and within the compounds of the industrial areas. Connection to the TANESCO power lines should be coordinated with TANESCO.
Pedestrians and bicycles Only few workers in the industrial parks will access the area by car. The vast majority is expected to come by bus (public transport: ‘Dalla – dallas’), by bicycle or by foot. Consequently, a system of footpaths and bicycle lanes will be developed in the area. They will have their starting point at the entrance gates and run along the primary distributors, district distributors and the local distributors.

The access roads will see both motorised traffic, bicycles and pedestrians. Footpaths and bicycle lanes will also be established in the green belts, and these paths will also serve a recreational purpose. The feeder buses to the area will use the trunk road and the primary distributor, and local buses will use the primary and district distributors. The abovementioned pedestrian system will distribute people from the buses to the different industrial plots.

Sidewalks can eliminate most walking-along-the-road-pedestrian crashes by providing positive separation from motor vehicle traffic. Continuous and connected sidewalks are needed along both sides of streets to prevent unnecessary street crossings. Generally, sidewalks should not be placed immediately adjacent to moving motor vehicle traffic. Whenever possible, they should be buffered with a planter strip, and shoulder or bike lane. This will increase pedestrian safety and comfort and can make it easier to meet the ADA requirement for a level passage through driveways, and the requirement for a paved shoulder offers pedestrians on rural roadways a safer place to walk. Sidewalks provide safe spaces for pedestrians to walk.

Port A port in the Bagamoyo SEZ area will be an important hub for export from and import to the industrial area. A new port in the SEZ will also alleviate congestion for the Dar es Salaam port.
Rail system

With the establishment of the port, a rail link is foreseen to connect the port to the rail network approximately 25 to 30 km away. A 30-metre corridor on either side of the rail line should be reserved.

The railway is an integral means of transport for the industries in the SEZ and therefore an area for marshalling with tracks etc. will be established.

The railroad connection to the port should intersect the trunk road and the primary distributor road at a level free crossing to perform traffic separation and ensure safety and traffic flow. As the roads are the most flexible regarding ascents, it is recommended that the roads cross the railroads, as shown in principle in figure 8.1, and at the same time secure level access form the roads to the SEZ.

Airport

An airport in Bagamoyo seems to be relevant when the capacity at Dar es Salaam airport itself is congested. As such Tanzania Airport Authorities expects that the transfer to Bagamoyo may happen 15 to 20 years from now, depending on what a newly launched feasibility study concludes.

8.2 Utilities

Water supply

Water supply is suggested to be provided by DAWASA to meet domestic, commercial and institutional water demand. The water supply pipeline will start at the existing DAWASA 54" pipe together with the planned 72" pipeline (DAWASA plans) where water will be tapped and carried 4.7 km towards the project area where the distribution system starts. It will run in parallel with the planned roads around different blocks.

Figure 8.3
The provision for individual connections is considered where different users will connect to water supply services.

The industrial water demand will depend on whether dry industries or wet industries are established. The suggested water supply system is shown on the map in Figure 8.3 and described further in Technical Paper 3.

**Storm water**

Urban development changes both the physical, chemical and biological conditions of waterways and downstream water resources. The TRRL method should be used to determine the quantity of storm water. The drainage system should be a separate storm water system and a separate sanitary sewerage system. Combining the systems should be avoided to avoid escalation of costs.

The storm water system will generally follow the roads and the outfalls will be to the rivers. The system is designed to follow the development of the area in the same speed as the phases dictating road development. The storm water system is illustrated in Figure 8.4 and described further in Technical Paper 3.

**Wastewater**

The amount of wastewater depends on the water consumption pattern with a withdrawal depending on type of entity. The industrial wastewater should be treated separately to ensure an acceptable quality and to avoid overloading the sewerage system.
The pipes for wastewater will be located in the same grid as the main and district distributor roads and the wastewater will be led to treatment ponds.

The effluent treatment system recommended is waste stabilisation ponds, which is the best choice for warm countries such as Tanzania. Waste stabilisation ponds will be established near the two rivers bordering the industrial area, with outfalls to the rivers. The suggested wastewater system is shown in Figure 8.5 and described further in Technical Paper 3.

**Solid waste**

The amount and type of solid waste depends on the source. The sources of solid waste in the area are industries, residential housing and institutions (hotels, harbours, colleges, tourism areas, etc.). Solid waste from certain industries should be treated separately to ensure an acceptable disposal.

Solid waste management should aim to promote environmental conditions by controlling pollution (including water, air, soil and cross media pollution), ensuring the sustainability of ecosystems in the project area and providing employment. In Bagamoyo SEZ, the management of solid waste should consider all stages of collection, transfer, treatment, recycling, resource recovery and disposal of solid waste in the project areas.
It is recommended that local transfer stations and a landfill are located in Bagamoyo SEZ to handle industrial solid waste. The transfer stations will be located with easy access at the road junctions. A number of transfer stations (10) are planned so that the distance to all plots is no more than 3 km. From the transfer stations solid waste will be transported to a landfill for disposal. The location of transfer stations and landfill is shown in the Figure 8.6 above.

**Power**

The need for power depends on the type and number of industries to be located in the area. However, it is assessed that the present power supply is insufficient. It is important to ensure a stable, secure power supply to the area, as this could be a strong selling point.

A fully developed industrial area would require an estimated 40 MVA. This requires that the production of electricity be expanded with a production of about 50 MVA (80% of the installed power) to ensure there is no shortage of power. There are plans to supply sufficient and stable power by the Government of Tanzania through TANESCO. TANESCO is already planning to extend its supply of about 200 KV to Bagamoyo, of which 80 KV will be used by KAMAL Industrial Park, while the remaining 120 KV will be transmitted for the use of Bagamoyo SEZ. This will be adequate for the start up, while waiting for bigger plans to be implemented by the Government.
Whether or not it is produced in the Bagamoyo area, or at another existing or new power plant (for instance, a new gas-fired plant), and how it will be financed, it is a decision to be made beyond the scope of this project, but a cost assessment has been included in case the SEZ is to finance the plant. The set-up is to be organized in dialogue between TANESCO and the administration of the SEZ.

**Telecom**

A fibre cable network should be constructed and connected to the fibre cable network in Dar es Salaam. It could be constructed in connection with the roads. Suggested lines are shown on Figure 8.7 above.

**Gas**

Tanzania's electricity supply has long been erratic because of the national grid's reliance on hydroelectric power, which in turn depends on rainfall. The entire region is experiencing a decade-long drought, which has shrunk Lake Victoria to the lowest level in 60 years, shutting down hydroelectric plants. Gas-fired generators could stabilize the power supply.

This has led to the implementation of a gas processing plant on Songo Songo Island; a 225 km/140 mile pipeline from the island to Dar es Salaam; and the 112 megawatt (MW) Ubungo power station in Dar es Salaam. The pipeline also supplies gas directly to industrial and commercial customers.
Tanzania has undertaken a rural, and peri-urban electrification project, in a move to develop the country's rural access to electricity and information technology services. The project, Energising Rural Transformation (ERT), which has also been undertaken in Uganda under the World Bank, is estimated to cost around USD 80 million. However the decision to establish a new gas-fired plant is beyond the scope of this project and could be a part of the ERT.

Gas is also an option for the individual factories in Bagamoyo SEZ to obtain processing fuel. The grid for this will depend on the need of the individual factories. Therefore, the design for a grid is not included, in this master planning process. A grid can be laid out as other utility grids along the roads.
9 Phasing and detailing the industrial component

This chapter looks at the phasing and detailing of the industrial component. The master plan programs the development of the SEZ in a way that ensures a well structured progression which, in combination with the demand forecast is the basic requirement for the phasing of the industrial component.

The area will be developed in three phases, promoting flexibility in Bagamoyo SEZ. The phases follow the development sequence in the various areas and are not directly related to the time periods used in the demand forecast. To ensure that the areas, development proceeds according to the actual demand, the two first phases are subdivided. Developing Bagamoyo SEZ in phases reflects the desire to locate the early stages, as closely as possible to existing infrastructure and on land that is easy to acquire. This means that the phases should be linked not only to the demand forecast, but to the actual demand by investors to avoid overdevelopment of infrastructure.

9.1 Phasing of the Industrial Component

The phasing of the industrial component is meant to be flexible and enable commencement of a phase prior to completion of the previous phase. The development of Bagamoyo SEZ is foreseen to take place over a period of 20 years (2013-2034) and be divided into three phases. The first phase will cover the first five years.

Phase 1 – Industry

Within the first five years, around 88 to 287 ha of land are expected to be allocated for industrial development in order to meet the requirements of the base case, the conservative case and the aggressive case scenarios, respectively. This amount of land is expected to be fully serviced and allocated to investors, who are expected to develop them and start production within the given period of five years. Therefore, it is expected that a range of 44 to 144 companies will be allocated industrial plots within the first five-year phase. The companies are expected to provide employment opportunities for around 6,500 to 21,000 persons.
Phase 1 is subdivided into four quarters, 1A, 1B, 1C and 1D, as shown on the map Figure 9.1. The first quarter to be developed is 1A near the trunk road. It covers 180 ha and meets the requirements of the base case scenario of 173 ha.

However, if more investors are attracted to the site, and the need for industrial plots increases, the phasing plan has allocated a total of 860 ha for future industrial development. Therefore, it is only expected that a minor part of the phase 1 area will be developed within the first five-year period. If a sole investor wants to develop all 860 ha, this would already be possible in the first phase.

During development of phase 1, it is assessed that it will not be necessary to upgrade the Bagamoyo-Dar es Salaam trunk road. However, at the beginning of the next phase, once the port is constructed, the trunk road should be upgraded to four lanes.

Phase 2 – Industry

Within a period of 12 years, around 440 ha to 2,200 ha of land are expected to be allocated for industrial development in order to meet the requirements of the base case, the conservative case and the aggressive case scenarios. In this period, some
of the development is still expected to be allocated to the phase 1 area, but the phase 2A area must commence as soon as the port and/or the railway is in progress to meet the demand of industries requiring easy access to port or rail services. If the port or the railway is not in progress when phase 1 is fully developed, phase 2B is supposed to be developed as the easiest and cheapest option. The phase 2A area contains 520 ha and phase 2B contains 1,400 ha.

In this phase, an upgrade of the trunk road to four lanes will be necessary.

In phase 2, the port is supposed to be finished with 1,020 m quay walls in 2018 or 2020, and an additional 300 m quay walls will be added in 2023 or 2025.

Once the port is established, a rail link is foreseen to connect the port to the rail network about 25 to 30 km away as described in the Medium Term Strategic Plan by RAHCO.

### Phase 3 – Industry

Within a period of 20 years, it is expected that around 690 to 3,258 ha of land will be allocated for industrial development in order to meet the requirements of the base case, the conservative case and the aggressive case scenarios, respectively. This amount of land should be fully serviced and allocated to investors, who will develop and start production within a 20-year period. Therefore, it is expected that a range of 345 to 1,629 companies will be assigned industrial plots within 20 years. The companies are expected to provide employment opportunities for about 38,771 to 177,458 people.

In phase 3, the port will be completed with an additional 520 m quay walls in 2026 or 2028.

The phase 3 area contains a total of 1,240 ha. The industrial component has to be fenced and gated for customs and security reasons. It means that each phase has to be fenced separately with temporary fences.

### Phases and other components

The proposed establishment of new settlements towards the west can be initiated when the demand arises. Advertising the possibilities of settlement in the area will most likely be a good idea. The new settlements are likely to commence in phase 1.

Furthermore, it will be a good idea to invest in establishing the proposed administrative service centre early in the phase 1A development stage. The EPZA service centre will be an important part of the first main entrance to the SEZ. This sub-area can also hold other administrative functions and commercial businesses serving the industry and its employees.

The coastal zone should be developed for recreational and tourist purposes at an early stage of the development of the SEZ. From the very beginning of the development of the area, scenic areas can without any major obstacles be designated for the construction of hotels and residential areas. In this area, it is planned to locate the Uongozi Institute. Today, the recreational area east of the port area can be accessed through the existing (dirt) road system. But later when the development of industry and recreation takes place, the primary distributor road along Mkusa River must be established to ensure adequate road service to the
recreational area. In this way, the industrial and the recreational traffic will be separated.

Hence, closer programming of the coastal zone should be conducted in order to ensure that the development fulfils the intentions of the land use plan. The area should be made available for development early in the process as it contains much potential for tourism.

9.2 Detailed Description of Phase 1

Phase 1 is located at the Bagamoyo-Dar es Salaam trunk road towards Dar es Salaam. The main entrance to phase 1 should be a landmark for entering the Bagamoyo SEZ from Dar es Salaam. At the administrative service centre and commercial hub, it will be possible to access the area and get the service needed.

The total size of the area is 860 ha, which is more than is needed for the first five years according to the demand forecast.
You enter the industrial park on a primary distributor road with no direct plot access. The road can be in four lanes and carry the total traffic in and out of the area, including traffic generated by development in phase 2B north of phase 1 and phase 3 on the adjacent area to the west. From the primary distributor, traffic is lead into the industrial districts on district distributors that can also be four-lane roads with pedestrian and bicycle lanes. Where the district distributor crosses a main distributor road, a roundabout will serve to make the traffic smooth and safe. The roundabouts will be designed to handle big lorries. You can access some plots from the district distributor, but the vast majority of plots are accessed through access roads. To allow large lorries to circulate in the industrial area, no roads are dead-end streets.

All industrial districts are designed with the possibility of acquiring larger or smaller plots. The calculations are based on an average plot size (base size) of 10,000 m². Each plot is shown with dimensions of 90x110 m, which allows a reasonably wide plot against roads, ensuring flexibility while minimizing the costs of roads in each industrial park. Within each industrial district, very large continuous areas can be acquired, if needed.

Green belts will divide phase 1 into districts that can be developed successively. The green belts will be the ‘lungs’ of the area with trees and paths for pedestrians and cyclists.

Water supply is suggested to be provided mainly by the DAWASA pipeline supplemented by groundwater sources by means of motorised pumps to meet domestic, commercial, and institutional water demand. The industrial water demand will depend on whether dry or wet industries are established in the first phase. The connection to the DAWASA pipeline has to be realized in the first development period.

The amount of wastewater depends on the water consumption pattern with a withdrawal depending on type of entity. Industrial wastewater will be treated separately to ensure an acceptable quality and to avoid overloading the sewerage system.

It is important to secure supply of power to the area from day one as this could be one of SEZ’ selling points to the industries. For phase 1, it is assumed that sufficient utility power will be available from the 33kV lines near the area. However, in subsequent years, during phase 2, construction of a new 132kV transmission line from Dar es Salaam to Bagamoyo will be necessary. Security of power supply also includes the ability to restore the network following faults, during construction etc.

A fibre cable network should be constructed and connected to the fibre cable network in Dar es Salaam. It will be constructed in connection with the roads and will have to be in function in the first five-year period.

In the first phase before the construction starts, the phase 1A area will have to be fenced with permanent fence and gate towards the trunk road and towards the Mkusa river road and with temporary fence on the two other boundaries.
9.3 Infrastructural Plans by Phases – Industrial Component

Some preliminary assessments on infrastructure needs for different infrastructure have been developed.

Table 9.1  Infrastructure and utility costs by phases.

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Phase 1 (MUSD)</th>
<th>Phase 2A (MUSD)</th>
<th>Phase 2B (MUSD)</th>
<th>Phase 3 (MUSD)</th>
<th>Cost assessment (MUSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads including storm water</td>
<td>29.1</td>
<td>28.0</td>
<td>49.4</td>
<td>44.5</td>
<td>151.0</td>
</tr>
<tr>
<td>Water supply</td>
<td>4.6</td>
<td>4.9</td>
<td>4.2</td>
<td>5.2</td>
<td>18.9</td>
</tr>
<tr>
<td>Waste water/sewerage</td>
<td>4.3</td>
<td>3.4</td>
<td>1.9</td>
<td>5.5</td>
<td>15.1</td>
</tr>
<tr>
<td>Effluent system</td>
<td>1.8</td>
<td>0.9</td>
<td>0.9</td>
<td>1.8</td>
<td>5.5</td>
</tr>
<tr>
<td>Power supply</td>
<td>2.4</td>
<td>1.4</td>
<td>1.5</td>
<td>2.3</td>
<td>7.6</td>
</tr>
<tr>
<td>Street lighting</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>0.5</td>
<td>0.6</td>
<td>0.5</td>
<td>0.6</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>42.8</strong></td>
<td><strong>39.3</strong></td>
<td><strong>58.6</strong></td>
<td><strong>60.1</strong></td>
<td><strong>200.7</strong></td>
</tr>
<tr>
<td>Gas-fired plant</td>
<td>-</td>
<td>115.0</td>
<td>-</td>
<td>-</td>
<td>115.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42.8</strong></td>
<td><strong>154.3</strong></td>
<td><strong>58.6</strong></td>
<td><strong>60.1</strong></td>
<td><strong>315.7</strong></td>
</tr>
</tbody>
</table>


Generally, the access roads within the industrial area are suggested to be two-lane roads. The primary distributor from the trunk road (gate) serving phase 1 is suggested to initially have two lanes, but should be prepared for four lanes in later phases. The primary distributor towards the port in phase 2 is suggested to initially have four lanes, while the primary distributor along Mkusa River and along the coast is planned to have two lanes initially, but to be prepared for four lanes. The total lengths needed to serve all phases of the industrial zone is assessed at 216 km, and for phase 1 of the industrial approximately 44 km; 109 km in phase 2; and 63 km in phase 3. For road transportation, a preliminary cost assessment has been carried out by phases and for the entire industrial area as seen in table 9.1 above.

For phase 1 of the industrial zone, the cost of roads is assessed at approximately USD 29 million; for phase 2 approximately USD 77 million; for phase 3 approximately USD 45 million; and for all phases approximately USD 151 million including costs for storm water.

Similar cost assessments have been carried out for water supply, wastewater, industrial water, solid waste and power supply, both for the full industrial component and for the industrial area for phases 1, 2 and 3 as shown in Table 9.1. The planning and design of the water supply, sanitation and solid waste infrastructure as well as storm water systems will take advantage of the topography of the area. This will reduce operation costs and minimize excavation and installation costs.
Water supply

The water supply pipeline will start at the existing DAWASA 54" pipe together with the new pipe (DAWASA plans) where water will be tapped and carried 4.7 km towards the project area where the distribution system starts. It will run in parallel with the planned roads around different blocks. The total length for the overall industrial zone is 57 km. The total length for phase 1 is estimated to be 14 km, 27 km in phase 2, and 16 km in phase 3. The major part of the phase 1 pipeline is located upstream of the project area where pipes are bigger than in the remaining phases. The investment costs for water supply for phase 1 are assessed at approximately USD 5 million for phase 1; approximately USD 9 million for phase 2; approximately USD 5 million for phase 3, and for all phases approximately USD 19 million.

Wastewater

Wastewater collection as well as the water supply system start with, and run parallel to, the planned roads around different blocks. The pipeline system is designed to have the smaller pipe sizes on the upstream side, and the bigger pipe sizes on the downstream side. The total cost of the wastewater system is USD 15 million.

Effluent system

Waste stabilization pond systems serving more than 10,000 people should have two or more series of parallel ponds to allow a continuous wastewater treatment process even at times of maintenance. Phasing for effluent treatment plant is done by considering the function of the treatment system as each type of pond fulfils its function in the system: Two units, one bigger and one smaller will be constructed to treat waste water. The design and construction of phase 1 will be executed to allow the possibility of extension of the ponds in phases 2 and 3. The total costs of the effluent treatment plant are estimated at approximately USD 6 million.

Power supply etc.

At least one 33/11 sub-station needs to be constructed to secure power in the initial phase. The routes for the 33 kV and 11 kV need to be identified from the beginning to avoid conflict with other services. All service ducts need to be in place when the roads are constructed.

The lighting for the main roads within the SEZ should be installed during construction of these roads. A fibre optic cable network has to be incorporated in the infrastructural plans and appropriate terms agreed upon with a reputable service provider. The cable should be laid at the time of construction and be ready just before the industries become operational.

The cost of providing power is estimated at approximately USD 8 million, and street lighting and telecommunication for all phases of the industrial zone at approximately USD 2.6 million. In addition 115 million USD may be needed to construct a gas driven plant.

Total costs

The total costs of road infrastructure and utilities are estimated at USD 43 million for phase 1, USD 213 million for phase 2 including a gas fired plant, and USD 60 million for phase 3 of the industrial area. The total infrastructure and utility cost of the industrial component is assessed to be approximately USD 316 million including 115 million USD for a gas fired plant.
The costs of external infrastructure such as railway, port, airport and trunk roads are assumed to be financed outside this project.

In addition to the overall infrastructure needed to serve the area the individual plots should be developed to a point ready to facilitate potential buildings.

The utilities for the plots consist of:

- Electricity, including e.g. cables, earthing, transformers etc.
- Water, including e.g. pipes, excavating, pumps etc.
- Drainage, including e.g. pipes, excavating, pumps etc.
- Telecommunication and ICT, including e.g. cableways etc., for the installation of cabling and equipment (cables etc.)

The utilities may consist of external and internal utilities, and in the financial assessments it is assumed that plots will be developed with external utilities (from main infrastructure to potential industrial building) while the internal utilities (within the buildings) will be covered when the building are constructed and thus not part of the initial investment costs for EPZA/Developer.

In addition, an access road (including e.g. roads and storm water (excavating, pipes etc.)) will be provided within the plot from the gate to the potential building.

The costs of the external utilities and roads within the plots are summarised in the below table. Further details are presented in Technical Paper 3.

Table 9.2 Roads and utility costs by phases for plot development.

<table>
<thead>
<tr>
<th>Roads and Utilities</th>
<th>Phase 1 (MUSD)</th>
<th>Phase 2A (MUSD)</th>
<th>Phase 2B (MUSD)</th>
<th>Phase 3 (MUSD)</th>
<th>Cost assessment (MUSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access roads on plots</td>
<td>58.1</td>
<td>35.1</td>
<td>94.5</td>
<td>83.7</td>
<td>271.4</td>
</tr>
<tr>
<td>Water supply</td>
<td>44.3</td>
<td>26.8</td>
<td>72.1</td>
<td>63.8</td>
<td>206.9</td>
</tr>
<tr>
<td>Drainage</td>
<td>28.9</td>
<td>17.5</td>
<td>47.0</td>
<td>41.7</td>
<td>135.1</td>
</tr>
<tr>
<td>Plot electricity</td>
<td>75.0</td>
<td>45.4</td>
<td>122.1</td>
<td>108.2</td>
<td>350.7</td>
</tr>
<tr>
<td>Telecommunication &amp; ICT</td>
<td>9.8</td>
<td>5.9</td>
<td>16.0</td>
<td>14.2</td>
<td>46.0</td>
</tr>
<tr>
<td><strong>Total for industrial plots</strong></td>
<td><strong>216.1</strong></td>
<td><strong>130.7</strong></td>
<td><strong>351.8</strong></td>
<td><strong>311.6</strong></td>
<td><strong>1010.0</strong></td>
</tr>
</tbody>
</table>


9.4 Development Control Guidelines for the Industrial Component

The development control guidelines provide suggestions on how to best develop land use through structuring and layout. It is discussed what type of zoning is within the land use plan, and heights, density and setbacks are identified. In the guidelines, access conditions, parking, landscaping etc. are described.
The development control guidelines are important elements of the vision of the master plan. They make it possible to fulfil the goals and vision of the development of Bagamoyo SEZ, with full regard to the demands for a special economic zone.

The Bagamoyo SEZ land use plan includes seven components. To support the industrial component of the SEZ and to ensure that a high quality of development is maintained, the following guidelines are prepared for the industrial zone. These guidelines should be given to the potential SEZ investors to assist them in constructing their own industrial facilities in Bagamoyo SEZ. In a future detailed planning for the other components, guidelines have to be prepared before development starts.

Guidelines for developing the industrial area have been proposed with the purpose of achieving development proposals in the development phases.

### 9.4.1 Guidelines for the Industrial Plots

The industrial zone is very large and is divided into two types of industry. Each type of industry is defined in the guidelines where necessary.

Fencing of the industrial zone is required in relation to custom regulations and security. Fencing is proposes to be carried out with chain link fences topped with barbed wire. The total height of the fence should be no more than 2.5 metres. Fencing of the individual plots is plausible but not required.

**Building use**

Two types of industry are designated:

- Heavy industry such as mass transit (railways, airlines, shipbuilders), chemicals downstream industries and plastics, industrial machinery etc.
- Light/medium industries (non or less polluting industries) such as agro-business, food and beverage, the manufacture of clothes, shoes, furniture, consumer electronics and home appliances, construction materials, metal and machinery etc.

Both types of industry can contain transport-intensive industry.

**Building heights and density**

The principles for building heights and density include:

- Buildings should be constructed with a lower height towards road areas.
- The normal building height in the industrial zone is up to 12 m. Buildings, or part of buildings, are allowed up to 24 metres if the purpose of the industry requires it (silos, storage houses etc). Buildings closer than 50 m to the access road should not be higher than 12 m and from 50 m from the access road, buildings or part of buildings should not be higher than 24 m.
- Generally, the density should be lowest towards the coast.
- The density should be highest for heavy industry.
- The density of heavy industry should be maximum 4 m³ per m².
- The density of light and medium industry should be maximum 3 m³ per m².
Block planning

Accordingly, detailed plans are proposed as follows:

› We recommend limiting the size of an industrial plot to 10,000 m² and to a minimum of 75 m (towards road) x 134 m.

› The development of industrial buildings should respect the minimum set-backs. The set-backs from the front ensure a beautiful and green front landscaping. The proposed minimum set-backs from the edge of the plot boundary for industrial plots are:

Table 9.3: Proposed minimum set-backs for industrial plots.

<table>
<thead>
<tr>
<th>Type of plot</th>
<th>Plot size</th>
<th>Set-backs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Front</td>
</tr>
<tr>
<td>Industrial plots</td>
<td>10,000 m²</td>
<td>10.0 m</td>
</tr>
</tbody>
</table>

Source: Consultant’s proposal based on the infrastructure analysis in Technical Paper 2.

The set-back guidelines for industrial plots are illustrated in figure 9.3 below.

Figure 9.3 Set-back guidelines. All numbers are in metres.
Development of industrial buildings should respect the minimum plot coverage. The proposed minimum plot coverage and plot ratio for industrial plots are:

Table 9.4 Proposed minimum plot coverage and plot ratio for industrial plots.

<table>
<thead>
<tr>
<th>Type of plot</th>
<th>Plot size</th>
<th>Plot coverage</th>
<th>Plot ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial plots</td>
<td>10,000 m²</td>
<td>60%</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Source: Consultant’s proposal based on the infrastructure analysis in Technical Paper 2.

- The design of building facades must plan for higher thermal efficiency and lower cooling load. The facades must be constructed with shading and no shiny walls.
- The orientation of buildings on the plot must reflect the overall orientation in the specific industrial district and must generally be orientated with building gables towards the road.
- Very strong and solid colours should be avoided on building sites in the area.
- Large building lots made of glass should be avoided or reduced because of heat and solar reflectance.
- Information and advertising signs must be placed on the building or placed with a 10-metre set-back from the road.
- Each plot must provide space for parking, maintenance or loading of vehicles with a capacity that fits the activity on the plot.
- Each industrial plot should provide space for greening (gardens) to enhance the aesthetic quality of the SEZ. 10 m from roads, each plot must provide space for greening without any building, parking or storage of materials.

9.4.2 Guidelines for Infrastructure and Surroundings

The concept for most infrastructure in the industrial area builds on a grid system that provides maximum accessibility for all infrastructure to the individual plot. To facilitate this system, guidelines have been developed for important infrastructure elements.

Junctions

The junctions both inside the area and connecting to the trunk road should be carefully designed to ensure both safety and capacity. Generally, four-leg priority junctions should be avoided and staggered T-junctions or roundabouts should be chosen. In some instances, traffic signals could also be considered. Typical junctions that could be used depending on the complexity of the junctions (road type, number of lanes, traffic etc.) are illustrated in the following diagrams.
Figure 9.4  Typical three-leg junctions

Figure 9.5  Typical roundabouts.
Utilities will be located along the roads where possible. Water and sanitation infrastructure will be placed outside the road infrastructure to avoid extra cost of road repair during future repair/rehabilitation of pipelines, but it will run parallel to the roads to easily detect damages or pipe leakages.

Water pipes should be at a minimum depth of 1.0 m, and wastewater pipes at a depth of 1.5 m. Buried power cables should be at a depth of 0.6 m to 1.1 m, depending on voltage.

Wastewater pipes should be placed under clean water pipes and water pipes should always be buried under cable ducts. Parallel telecom and power lines are to be run separately, and thus to run in different ducts. The distance between ducts depends on the voltage level of the power cables.

For a four-lane road, power lines for street lighting are to be located on the central verge and, for a two-lane road, along the road side.

Pedestrians and bicycles can access the Bagamoyo SEZ area from any road, including the trunk road.

Pedestrian crossings in Bagamoyo SEZ are proposed to be located in the green corridors between the industrial districts. It might be desirable to design some parts of the pedestrian paths to function as a recreational space.
Various street furniture (shade trees, benches, lighting, paving etc.) is proposed for the sake of the pedestrians in some parts of the pedestrian crossings or in areas with common functions in the industrial districts.

Parking

Each industrial plot should provide space for parking of industrial workers' cars and lorries:

- Road networks – except primary distributions – should be constructed to provide on-street parking for lorries along the industrial plots.
- Parking access: Vehicles can access all roads except the main trunk roads and the primary and the district distributor roads, but their entry must be at least 10 m away from the crossroads to prevent traffic congestion.

Open spaces

Buffer zones are located along the rivers as green belts against residential zones and the coastal zone.

- Street trees along the primary distributors, local distributors and/or access roads are recommended. This would provide shade for pedestrians and raise the aesthetic quality in industrial areas with many different types of buildings.
- Developers must ensure the establishment of planted hedges in the boundaries between the individual plots.
- It is proposed that pedestrian paths and green belts should be designed to include a detailed landscaping plan.
10 Institutional Development of Bagamoyo SEZ

This chapter introduces three basic models for the SEZ development and operation and discusses which of these models is the most suitable for Bagamoyo SEZ. Furthermore, the chapter outlines some guiding principles for the involvement of the private sector and gives concrete advice on how to attract developers to Bagamoyo SEZ (this is also presented in Technical paper 6).

10.1 Three Viable Models for SEZ Development and Operation

The application of public-private partnership models has become increasingly prevalent and appears in different forms:

› Hiring of private companies for management of a SEZ established by the public sector
› Application of build-operate-transfer schemes in conjunction with financial support of the public sector
› Development of the engineering and transport infrastructure up to the boundaries of SEZ to promote private investments within the SEZ boundaries
› Long-term lease of the SEZ territory to a private developer

The relationships between a private partner and the public sector cover aspects related to the selection process of a private partner, the signing of a contract and implementation of its separate provisions.

We see three viable models for Bagamoyo SEZ development and operation. They vary in terms of public-sector commitment, private-sector involvement and inherent institutional complexity:

› Model 1: Public development corporation
› Model 2: Contractual public-private partnership
› Model 3: Special purpose vehicle
The characteristics, advantages and disadvantages of each model are briefly discussed below.

10.1.1 Model 1: Public development corporation

Public development corporation is created in the form of a separate legal entity, with public authorities (national, regional and/or local) as its main shareholders. Establishing such a corporation requires much more commitment from the public sector, but also brings certain benefits, such as improved control. The corporation is typically set up for an indefinite period of time. It should be noted that the corporation's shareholdings could be extended both vertically (in case of participation by regional or national level authorities) and horizontally (when an agency is formed through the combined resources of different local bodies, for instance, several municipalities). In the latter case, the corporation's activities could be extended towards other public services such as waste collection and waste treatment.

10.1.2 Model 2: Contractual public-private partnership

This model constitutes a mixed form, where the local authority contributes certain assets and resources (for instance, the land itself), but concludes a contractual arrangement with a selected private sector party for key activities like infrastructure development and promotion of the zone. In this approach, the public-sector partner can benefit from the specific expertise and resources of the private partner, while still avoiding the complexities and risks of entering into a joint equity company with a private partner. From the (local) authority's viewpoint, the
drawback of this model is reduced control over the strategic orientation and operations of the zone. In a worst-case scenario, the private concessionaire also might – for various reasons – seriously under-perform and not meet his obligations in terms of investment and employment attraction.

10.1.3 Model 3: Special purpose vehicle

This model constitutes the equity (joint venture) equivalent of the third model, where the public and private partner(s) decide to set up a joint company for the development and management of the zone – a special purpose vehicle (SPV) in which both the private sector and the government have a risk-bearing stake.

That means that, depending on the results of operational management, the government is entitled to part of the profit or bears some of the risk where a loss is incurred. All risks are shared in proportion to the stake of each party. This form of PPP might also be considered as an option for the development of Bagamoyo SEZ, and would allow for a very direct sharing of risks and revenues with government authorities in Tanzania.

It is, however, an inherently complex and therefore more costly approach that requires a great amount of legal preparatory work (notably in the areas of fair and transparent selection procedures and rules regarding the provision of state aid). Similar problems as with the contractual PPP model may arise, such as the risk of divergent goals and expectations; a more lengthy open procedure for selection of the partner; risk of non-performance of the private partner (for instance, due to other priorities or bankruptcy); and the possible difficulties in generating private-sector interest in an intrinsically low-return project. Due to the costs and complexities involved, this model seems suitable only for larger development projects.

10.2 Selecting the Best Development Model for Bagamoyo SEZ

Our evaluation of the suitability of the different development models for the Bagamoyo SEZ project is summarized below:

10.2.1 Model 1: Public development corporation

The establishment of a public development corporation for Bagamoyo SEZ would bring the advantage of total public control of the zone's development. Such agency could be constituted by different public-sector authorities. A critical success factor would be securing sufficient funding for both the zone infrastructure development and for the agency's operations, in conjunction with creating a team of dedicated professionals in SEZ zone development, operations and marketing.
10.2.2 Model 2: Contractual public-private partnership
The contractual public-private partnership model constitutes the (increasingly) preferred approach for development of larger economic zones in non-industrialized countries. Also, in the case of Bagamoyo SEZ, it would harness private capital and expertise for zone development. Zone regulatory and zone landlord functions could continue to be in the hands of the public sector, though best in separate institutions or agencies.

10.2.3 Model 3: Special purpose vehicle
While this model is especially suitable for larger development projects, the model presents more legal complexity which might deter private developers. The legal risks and the longer implementation time frame would not make it the first choice for a Bagamoyo SEZ.

10.2.4 Conclusion
Any of the three models can be suitable for Bagamoyo SEZ, but the above analysis of the principle models points to a model involving a contractual public-private partnership (model 2), which can differ through the detailed set-up from different areas in the SEZ.

In some areas, EPZA can take over more investment responsibilities to attract smaller companies, and in others the detailed investments inside the SEZ can be left to a private investor. Such a set-up will relieve EPZA from financing all developments in the SEZ and would more actively engage the private sector and contribute to shifting the SEZ towards market-driven development.

This approach would both be feasible\(^{14}\) and suitable within the current context. Assuming that sufficient developers' interest can be generated, a contractual public partnership also offers the best chances for a timely and technically/commercially successful implementation of the zone.

10.3 Guiding Principles for Involving the Private Sector
In many countries, PPP arrangements are gaining momentum and are increasingly welcomed as an answer to the requirements for funding public infrastructure and for upgrading the quality and efficiency of services delivered, including for industrial zones development. What the analysis of approaches in different countries makes clear, however, is that there is no such thing as, for instance, a ‘British model’ or an ‘African model’ in the sense of a ‘one-size-fits-all’ prescription for all PPP situations. Quite to the contrary, it suggests that while there

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\(^{14}\) While not subject of our review, it is herewith assumed that the Tanzania Public-Private Partnership Act (2010) provides an adequate legal basis for such PPP arrangement.
are general rules for wide application, these rules must be tailored to the local circumstances.

At this stage, it is useful to list the strategic guiding principles of any engagement of the private sector in the development of Bagamoyo SEZ, which boil down to ensuring that both the public and private-sector sides achieve their public-private partnership objectives in a satisfactory way. The government and the private sector join forces to implement projects which both have a public benefit and a commercial return. It will be a specific form of cooperation, in which (1) the government and private entities have a relation as partners rather than as contracting party versus contractor; (2) both sides make a certain contribution and therefore incur a risk; and (3) the project meets equal or at least parallel interests (win-win situation).

10.3.1 Beyond Simple Government Procurement

In PPP projects, the government and the private sector each retain their own identity and responsibilities. They collaborate on the basis of a clearly defined division of tasks and risks. PPP projects are therefore to be distinguished from simple government procurement (work, supply, service), where the private sector does not provide any capital and where there is no transfer of responsibility or control, and from simple alternative financing (such as sale and lease back) or ‘debudgeting’. In a PPP approach, the smart government pulls the strings and lets the market do the work. It thus has an ongoing role.

This approach is quite different from classical procurement. In a classical procurement situation, each component of a contract is offered to the market separately. The government first performs a pre-feasibility evaluation in which the global parameters and constraints of the project are fixed. In a second step, the government contracts out the design work. After that, the government searches for a contractor who can build or implement the design. As the project is developed, the government searches for a party who can ensure the maintenance or operation of the project. The government pays for all bills and takes care of the financing. As the different project phases are contracted out separately, the private parties have little opportunity for innovative approaches. Clearly, this also means that the government takes on the burden (and risks) of a proper co-ordination between the different project components.

In a more innovative procurement approach, the government can opt to consolidate a number of project phases. Specifically, the design/building/operation can be combined in a single DB (design build) contract or in a DBM (design build maintain) package. As a result, the contracting consortium has the opportunity to better match the design and the construction. For example, the building company may propose a design that will be efficient to build with the existing equipment.

In concessions, the four elements (design/build/maintain/finance) can be procured simultaneously. Though the integration of financing seems to be a small extra step, this constitutes an essential change in the nature of the agreement. The emphasis is now on rendering a service rather than on delivering a product. In the concession
model, the financing element also leads to the transfer of risks and rewards to the private-sector party. The concession model is a form of a contractual public-private partnership, and may be considered as one of the possible options for involving the private sector in Bagamoyo SEZ. Given the substantial financial input of the private partner, concessions usually have a 20 to 30-year term. After this period, the ownership of any remaining fixed assets is normally transferred to the public sector, at a price that can be agreed in advance, determined according to an agreed mechanism, at market value etc.

Concession PPPs have many variants, which mostly fall under the generic abbreviation BOT (build, own, transfer). A BOT is an agreement where the private party takes on the design, financing, realisation/building, exploitation and maintenance of an infrastructure facility. The private partner exploits the facility during an agreed timetable and has in return the right to impose levies and fares. The private party usually owns the facility. At the end of the concession period, the facility is usually transferred back to the government. Variants of BOT include design build operate (DBO); design build operate and maintain (DBOM); design build finance operate (DBFO); build, operate and renewal of concession (BOR, a combination of a DBOM and a DBFO contract); build, own, operate, transfer (BOOT); build transfer operate (BTO); build, transfer and lease (BTL); build own operate (BOO) etc.

The different aspirations and needs of the public and private sector sides are discussed briefly below.

10.3.2 What Should The Public Authorities Expect from the Private-Sector Partner?

Clearly, the public sector will look for help with financing of infrastructure and with technical and marketing expertise. The public sector will also expect the private developer to take a certain level of commercial risks. These commercial risks should be equitable, however; if not, the private partner(s) will not show interest at all or will pull out sooner or later, possibly resulting in years of delays for the project implementation.

Importantly, the public-sector partner will also want to achieve the overall strategic and socio-economic objectives associated with the development of the zone. The zone should be developed according to the original vision and within the planned timeframe. It should be avoided that only the most profitable components of the total project are taken up by the private developer (cherry-picking). It should also be ensured, through the agreement with the developer, that prospective tenants meet certain criteria, which could relate to investment density, target employment, activity (product or industry, sector or sub-sector), or that the investors fit with the zone's industrial/cluster strategy. Inefficient use of land, whether due to external reasons or due to speculation, should also be avoided through mechanisms for penalizing investors or claiming back portions of unused land.
10.3.3 What Will the Private Developer or Operator Expect from the Public-Sector Partner?

A private-sector developer will want to be able to create, against an attractive cost structure, a desirable product for which he can reasonably expect a strong demand, while keeping a healthy balance in the cash flows of development expenditure versus revenues.

In the first place, a developer will therefore focus on the potential demand for the zone, evaluating exactly the same variables and location factors as his prospective tenant companies. Any investment impediments or less-than-good score of Bagamoyo SEZ in terms of location attractiveness for potential tenants will have an impact on the possible lease price and therefore reduce the profit of a developer. In addition, if the proposed location is not highly sought after, this will also have an impact on the occupancy rates (for instance, through longer periods between subsequent tenancy contracts), again reducing the profit of the developer. The location attractiveness will also be determined by the stability of the legal and fiscal environment (for instance, the possibility for the authorities to create new tax levies).

In the second place, only the developers will be able to evaluate the quality of the local business environment in relation to their own venture. Factors to be considered will include things of particular relevance to the tenants (such as tax levels, security and cost structures). They will also have their specific requirements, for example related to land law, urban planning law and provision of utilities. A developer will look for maximum flexibility when planning for residential and commercial developments within the zone. Deadlock situations due to overlapping land planning regulatory authorities or lack of control over utility infrastructure developments should absolutely be avoided.

Developers will also look for ways to add value to every hectare they develop. They are not primarily interested in merely developing serviced land for subsequent onward leasing to companies that build their own factories. Developers will be interested in constructing facilities that can, through their standardized design, easily be let. These will include offices, commercial and residential real estate, flexible, multi-purpose warehousing buildings and to a lesser degree standardized factory buildings. Any attempt to find a private developer to develop a pure manufacturing site will almost certainly fail – except if most or all off-site infrastructure is financed by the public authorities and the land is provided to the private party at a cost near zero.

Clearly, the developer will also want to have flexibility to adjust the product and its positioning against changing market demands. This will include flexibility in the timing of capital expenditure to be in line with the actual take-up of land and facilities, as opposed to having to follow a strictly imposed investment plan. In the

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15 In the Dubai Free Zone, for example, waiting time for industrial land is currently eight months, inevitably resulting in near full-occupancy rates of existing facilities.
same way, a certain degree of flexibility in determining lease rates will be required (as opposed to too tight government control of lease rates, for instance in the form of fixed maximum rates).

From the developer's perspective, having a desirable product also means that there should be as few competing offers as possible. A developer will seek a clear view on the presence and relative pull of alternative (competing) locations. As an example, he will want to avoid that another publicly funded industrial estate (for instance, within the port area, or on another estate nearby the SEZ) is suddenly developed in the immediate vicinity, putting unexpected pressure on price levels. In this respect, a transparent government policy regarding the establishment of industrial estates will be needed.

It can be concluded that creating sufficient initial interest with the private sector in Bagamoyo SEZ, and ensuring their ongoing involvement in it, will necessarily ask for:

1. First, creating an attractive business environment for prospective tenants of the zone
2. Second, offering an attractive, transparent and stable policy and regulatory framework to the developer of the zone
3. Third, adopt a realistic approach to setting the scope, conditions and price levels for the PPP venture (whether in the form of a concession or a special purpose company). The scope and flexibility of allowed developments cannot be too restricted. The basic land lease price towards the developer may not be too high, otherwise no private sector interest can be created or sustained. A fair balance between the interests of the public and private sector partners will have to be found

10.4 Attracting Developer-Operator for the Bagamoyo SEZ Project

10.4.1 Creating Awareness of Potential Investors

As indicated earlier, generating sufficient interest from developers will hinge on being able to demonstrate potential demand for the zone, in terms of attractiveness of the zone for future tenants. It will therefore be crucial to develop a ‘project opportunity’ document, which addresses this information need.

At this stage, we suggest that the following activities should be taken up:

› Prepare a ‘project opportunity’ document (for example in the form of a slide pack) with all background documentation for developers to be able to submit an expression of interest.

› Determine what information developers need to submit to show their interest. This may, among other things, relate to the capability and resources of prospective bidders to perform the contract satisfactorily, taking into account
their (a) experience and past performance on similar contracts, (b) capabilities with respect to personnel, equipment, and construction or manufacturing facilities, and (c) financial position).

› Compile a long list of developers to whom to send this documentation.
› Set up an outreach campaign to invite developers to show interest.

10.4.2 Shaping the Bagamoyo SEZ PPP

As indicated earlier, the respective roles of the public and private sector partners should be well-defined. Below is an illustrative list of what roles and tasks could be addressed in a Bagamoyo SEZ PPP:

The role of the public sector in the PPP can include:
› Off-site infrastructure provision
› Consolidation of land for long-term lease
› Financing of some on-site infrastructure (for instance, public roads)
› Tax and other concessions
› Investment promotion support (for instance, the Tanzania Investment Centre)
› Introduction of a simple and transparent mechanism of enterprise registration based on a one-stop-service principle (for instance, through a local antenna of the Tanzania Investment Centre). Ensure the possibility to issue within the SEZ all secondary permissions that are necessary for the activity, albeit through the networking with other authorities
› Monitoring of the contractual performance of the private developer

The role of the private sector in the PPP can include:
› Build, lease, sale of land/buildings (either without government interference on prices, or based on pre-agreed pricing scheme)
› Install on-site infrastructure following established and clearly identified technical requirements (building code, utilities etc.)
› Establish complimentary services for users within the zone at a fee (for instance, security)
› On-site customs facility built at the manager/developer's cost
› Register with the authority a copy of standard lease/purchase agreements as well as any governing contracts (maintenance, compulsory/optional services)
› Report to the authority on each lease/purchase agreement executed
› On-site one-stop-shop investor servicing facility built at the manager/developer cost
11 Financial Modelling

The main objective of the financial modelling and analysis is to set up a financial model framework for potential generated revenues as well as operational and maintenance costs for the full operation of Bagamoyo SEZ based on the assumptions made in the demand scenarios, the master plan, the plan for the infrastructure development, unit costs and the sources of finance.

Please refer to Technical Paper 5 for detailed information on the assumptions and the detailed analyses.

11.1 Methodology, Content, Structure and Key Functions of the Financial Model

The financial model has been specifically developed for the business projects of Bagamoyo SEZ in a user-friendly way. It enables the Client to use the financial model to assess the consequences of new information on the project's sustainability etc. It provides an overview of adjustable input data, enabling the Client to work with the model itself, reviewing consequences of different changes in input data.

The financial model can produce reliable financial ratios and illustrate the consequences of the project risks through sensitivity testing. The financial analysis provides and reviews the results based on forecasts of the demand growth. Below, the content and key functions are further described followed by main assumptions made in the financial analysis.

The financial cash flow generated by the project is based on the assumptions made for the selection of the industrial components and the subsequent demand forecasts (scenarios: base, aggressive, conservative).

The potential revenues of the project will be generated from companies that intend to pay (sales/rent/lease) for the utilisation of Bagamoyo SEZ and its facilities over the period of analysis (20 years). The revenue base is, by the financial model, categorised according to the number of companies that will form part of the SEZ.

It is too early to determine the specific arrangement and conditions for sales, rent and/or leasing of the plots as well as the utilities that will be made available by the
EPZA/SEZ administration and the companies themselves. Necessary assumptions for those arrangements, based on experience from similar SEZ arrangement are at present made for the analysis to ensure that revenues are forecasted. The specific financial arrangements between the companies and EPZA can in principle be made according to the preferences of the parties, as long as the potential revenues are secured in an agreement between the company and EPZA.

The cost structure, and corresponding cash flow, depends on such arrangements and to what extent the EPZA/SEZ administration and/or the private companies will be involved in investments and the infrastructure development in and around Bagamoyo SEZ. At present, it is assumed that the private companies themselves will be responsible for the investments in own buildings etc. on their plots whereas the necessary site developments in the SEZ area and at the plots will be provided by EPZA/administrator of Bagamoyo SEZ.

The final assumptions for the financial analysis will depend on the ideas of the EPZA/SEZ administration with regards to the rent/lease price policy for industrial plots to be adopted and to what extent other services will be provided by the SEZ.

A sensitivity analysis will be an integrated part of the financial model to test the risks of variation in the critical model parameters showing the impact of changes in selected critical parameters. These include, but are not limited to:

- Demand scenarios
- Cost of land development (industrial SEZ areas including plots)
- Cost and timing of compensation of existing settlements
- Sales/rent/lease price of industrial land
- Discount factor
- Cost of finance (debt and equity)

The consultant has furthermore made recommendations for sales/rent/lease price policies for Bagamoyo SEZ.

11.2 Financial Model

The financial model is a framework for potential revenues as well as operational and maintenance costs for the future operation of Bagamoyo SEZ and is based on assumptions made for the three demand scenarios, the plan for the infrastructure development, the master plan, unit operational costs, cost of land, and site development, cost of compensation and resettlement, and sources of finance.

11.3 Main Assumptions

11.3.1 Main Assumptions for the Financial Analysis

The main financial assumptions used for the base case scenario are as follows:
Land and plot development period = one year.

Developments will take place according to the progress of demand for plots.

It is assumed that minimum 180 ha will be developed to cover the demand for the first five years, and that the land development will subsequently follow the demand for plot (aggressive demand scenario). The postponed investments for land development will consequently reduce the loan requirements during the period of analysis and hence the cost of finance and debt service.

To insure a buffer of available developed and serviced land for the industrial demand, and to accommodate the aggressive demand scenario also, an area of 250 ha to cover the first five years has been assumed for the financial analysis.

As the costs of land development normally are lower for large-scale land developments, it is assumed that the cost of land development in small-scale will be approximately 25 per cent higher.

Depreciation period = 25 years.

Loan capital cost: Libor (six month) + country margin + risk premium (11 to 12 per cent p.a.).

Loan guarantees by the Government of Tanzania.

Loan repayment period: 25 years assuming that each loan for, for instance, eight to ten years are refinanced to match the full analysis period.

EPZA/administration of the SEZ is to use any surplus earned for re-investment of further development of the SEZ.

Grace period = 1 and 2 years for the first two loans.

Loan: 60%

Period of analysis: 22 years

Discounts factor: 6 per cent (part of sensitivity analysis using, for instance, 12 per cent).

Annual cost of operational and maintenance is assumed at 5 per cent of phase investments (part of sensitivity analysis using ten per cent annually).

All prices are in real values (without inflation).

Sales/rent/lease price of industrial plots is assumed to be USD 115 per m² for the base case for phase 1 (2014-2018), USD 131 per m² for phase 2 (2019-2025), and for phase 3 USD 148 per m² (2026 and on). The proposed price level is based on a combination of ensuring an adequate financial return based on the assumptions made for the analysis as well as experience from Kamal Industrial Estate, which presently is selling plots on a 99-year basis for USD 79 per m², although not providing the same level of site development on the actual plots as assumed for Bagamoyo SEZ. The estimated sales price at Bagamoyo SEZ therefore corresponds to the level at Kamal plus the estimated sales value of the development of the plots.

Sales/rent/lease price of land for port, commercial and residential is assumed to be USD 20 per m² for the base case. Sales price of land for institutional
areas is set to USD 0 (nil). The port is assumed to be in concession by year 2019.

› As for the sensitivity analysis, the compensation amount per m² will be higher in 2018 and 2025, respectively, by 12 per cent and 30 per cent, compared to the present level of USD 10 per m².

› Currency: USD.

11.3.2 Main Conditions for Viability of Bagamoyo SEZ
Tanzania has acknowledged the need to establish SEZ areas to attract Foreign Direct Investments (FDIs) and boost industrial investments. This is reflected in its national development plans, but also other factors reflect the viability of developing SEZ areas in Tanzania and in particular for Bagamoyo SEZ:

› Accepted economic zone approach for economic development is especially effective for countries with poor infrastructure and limited funding for development as is the case in Tanzania

› The development of SEZ areas is in line with the country's 2025 development strategy

› Bagamoyo SEZ and the port are the first SEZ in this programme and as such the flagship project of Tanzania's increased industrialisation and export

› The government established the Export Processing Zone Authority, a single national authority to manage SEZ projects, in 2006

› The SEZ Act was issued in 2006, covering the establishment, development and management of SEZ areas

› The Tanzanian Investment Centre (TIC) has been given authority to manage public private partnerships (PPPs) for foreign companies

› The Government generally has a favourable attitude toward foreign direct investment and has had considerable success in attracting Foreign Direct Investments

› The legal framework has not yet been overcome and many more FDIs could be attracted to Tanzania

› Bagamoyo's strategic location in Tanzania's central coastal region and the growth possibilities offered by a successful port of Bagamoyo

› The Bagamoyo SEZ manufacturing base opportunity and the regional logistics hub opportunity offered by the proposed Dar-Es-Salaam and Bagamoyo twin-port concept

11.3.3 Revenue
The demand for plots has proved to be a direct function of the sales/rent/lease price, but in particular also the potential benefits and advantages that the private companies can gain from entering the SEZ membership compared to other alternatives, for instance, tax advantages, facilities, company network, access to port facilities etc. The price of land is much higher in the DAR industrial areas and
the cost of land might be up to 1/3 of the price if utilised with the SEZ. The sales/rent/lease price should as a minimum reflect the cost of operations and maintenance, provision of facilities and return on infrastructure and site and plot development investments etc.

11.3.4 Cost Estimates of SEZ Investments

The cost estimates of the Bagamoyo SEZ investment consist of different components covering compensation and resettlement of the population living in the SEZ area, the land development of industrial, residential, institutional etc. areas, road development and development of other site infrastructure in the SEZ including on the plots as detailed further below.

There have been several last moment changes in the phases and, consequently, the size of areas for development. For this reason, the cost of land development has for the financial analysis been based on average unit prices for the full infrastructure development of the industrial area and individual plots.

The investment cost estimates for the full development of Bagamoyo SEZ are presented in Table 11.1 and Table 11.2 for, respectively, when compensation and resettlement is made in year 2013, and when the compensation and resettlement is made according to the progress of the development of the different phases; Phase 0 = 2013, Phase 1 = 2014 to 2018, Phase 2 = 2019 to 2025, and Phase 3 = 2026 to 2033, in line with the demand for plots.

The compensation and resettlement cost price is in year 2018 assumed to be 12 per cent higher compared to year 2013, and 30 per cent higher in year 2025. See also financial assumptions further below.

The investment plan furthermore includes the need of an internal gas fired power supply station and a gas pipeline from Dar es Salaam, including equipment amounting to USD 115 million which will be invested before operations begins. The total estimated investment costs for site and plots amount to between USD 1,452 to 1,461 million, covering the full period of operation of the SEZ. Each plot will receive basic infrastructure development covering access road, water and sanitation, electricity and telecom.

<table>
<thead>
<tr>
<th>Year of investment</th>
<th>2013</th>
<th>2014</th>
<th>2019</th>
<th>2026</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resettlement &amp; compensation</td>
<td>90,089,750</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>90,089,750</td>
</tr>
<tr>
<td>Industrial roads</td>
<td>28,052,900</td>
<td>73,322,200</td>
<td>43,114,900</td>
<td>144,490,000</td>
<td></td>
</tr>
<tr>
<td>Other roads *)</td>
<td>15,450,000</td>
<td>11,525,000</td>
<td>12,175,000</td>
<td>39,150,000</td>
<td></td>
</tr>
<tr>
<td>Access roads on plots</td>
<td>58,050,000</td>
<td>129,600,000</td>
<td>83,700,000</td>
<td>271,350,000</td>
<td></td>
</tr>
<tr>
<td>Site infrastructure development</td>
<td>175,776,395</td>
<td>373,412,795</td>
<td>243,269,545</td>
<td>792,458,735</td>
<td></td>
</tr>
<tr>
<td>Gas fired plant</td>
<td>-</td>
<td>115,000,000</td>
<td>-</td>
<td>115,000,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td>90,089,750</td>
<td>277,329,295</td>
<td>702,859,995</td>
<td>382,259,445</td>
<td>1,452,538,485</td>
</tr>
</tbody>
</table>

*Note: Revised phases can be seen in more details in the master plan (Component 2)
*) Other roads are for residential, commercial and institutional areas

Source: Consultant’s assumptions based on the financial analysis in Technical Paper 5.
Table 11.2  
Investment cost estimates (USD) - Resettlement and compensation delayed 2013, 2019 and 2026

<table>
<thead>
<tr>
<th>Year of investment</th>
<th>2013</th>
<th>2014</th>
<th>2019</th>
<th>2026</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Costs (USD)</td>
<td>2013</td>
<td>2014</td>
<td>2019</td>
<td>2026</td>
<td></td>
</tr>
<tr>
<td>Resettlement &amp; compensation</td>
<td>-</td>
<td>-</td>
<td>33,201,693</td>
<td>24,113,895</td>
<td>99,211,819</td>
</tr>
<tr>
<td>Industrial roads</td>
<td>28,052,900</td>
<td>73,322,200</td>
<td>43,114,900</td>
<td>144,490,000</td>
<td></td>
</tr>
<tr>
<td>Other roads *)</td>
<td>15,450,000</td>
<td>11,525,000</td>
<td>12,175,000</td>
<td>39,150,000</td>
<td></td>
</tr>
<tr>
<td>Access roads on plots</td>
<td>58,050,000</td>
<td>129,600,000</td>
<td>83,700,000</td>
<td>271,350,000</td>
<td></td>
</tr>
<tr>
<td>Site infrastructure development</td>
<td>175,776,395</td>
<td>373,412,795</td>
<td>243,269,545</td>
<td>792,458,735</td>
<td></td>
</tr>
<tr>
<td>Gas fired plant</td>
<td>-</td>
<td>115,000,000</td>
<td>-</td>
<td>115,000,000</td>
<td></td>
</tr>
<tr>
<td>Total costs</td>
<td>41,896,232</td>
<td>277,329,295</td>
<td>736,061,688</td>
<td>406,373,340</td>
<td>1,461,660,554</td>
</tr>
</tbody>
</table>

Note:  Revised phases can be seen in more details in the master plan (Component 2)  
*) Other roads are for residential, commercial and institutional areas  
Source:  Consultant’s assumptions based on the financial analysis in Technical Paper 5.

As presented in the two tables above, it is assumed for the phased investments that the land development of the industrial zones occurs in phases. The detailed phases for the industrial areas and corresponding size of areas (ha) are as outlined below:

Table 11.3  
Area sizes developed for industrial use in the three phases

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
</tr>
<tr>
<td>180 ha</td>
<td>220 ha</td>
<td>220 ha</td>
<td>240 ha</td>
</tr>
</tbody>
</table>

Source:  Consultant’s assumptions based on the land use analysis in Technical Paper 2.

In order to avoid that too heavy investments are made too early for land development (before demand materialises), it is assumed that minimum 180 ha will be developed to cover the demand for the first five years, and the land and plot development will subsequently follow the demand for plot (aggressive demand scenario). The postponed investments for land and plot development will consequently reduce the loan requirements during the period of analysis and hence the cost of finance and debt service.

To ensure a buffer of available developed and serviced land for the industrial demand, and to accommodate the aggressive demand scenario also, an area of 250 ha to cover the first five years has been assumed for the financial analysis.

If the base case demand scenario will be the actual demand at the SEZ, then, if assuming that the land and plot development follows the aggressive demand scenario, there will obviously be a surplus of available developed land. Alternatively, if land development follows the base case demand scenario, there would not be sufficient land if demand for plots increases.

11.3.5 Sources of Finance

Financing the investments required for Bagamoyo SEZ is still an outstanding issue. However, it is assumed that it will consist of a combination of government funds,
private sector funds (through PPP), commercial bank loans only when the government guarantee is provided as well as grants from various sources. Furthermore, it has been informed that it is the intention of the PZA/Administration of the SEZ to use any surplus earned for re-investment into other phases of the SEZ development.

Commercial Bank Funding

The consultant has investigated the financing of EPZes and SEZes. It was informed that the terms of the loan (interest rates, grace period, tenor, collateral, guarantee, insurance etc.) are based on an individual assessment of the client. It is therefore difficult to generalise about the loan terms.

A crucial element of the assessment for both the financial analysis and the funding is a realistic demand forecast as this is the basis of the future revenue. Usually, the bank will rely on the studies made on the demand forecast, but may also carry out a supplementary review to support their decisions on funding.

Several variables influence the terms of the loan: grace period, tenor, guarantees, collateral, off-take agreement and capital structure (debt-equity ratio). Insurance is in the range of 1.8 to 3 per cent of the loan amount. Funding in Tshs is more expensive than USD funding. Rates for Tshs are in the range of 25 to 30 per cent annually where USD is 10 to 15 per cent depending on the client, collateral, guarantees, insurance, tenor etc. Inflation reached more than ten per cent in 2011.

The specific terms for the top clients are at the moment in USD funding: interest rate nine to ten per cent, grace period only during construction, tenor five to seven years maximum, collateral in tangible assets or guarantees from a parent company, off-take agreements etc.

It has been discussed with Stanbic Bank in Dar es Salaam how the structure of the land owner of the SEZ should be. One model is for the Government to set up a special purpose vehicle (SPV) that will acquire the land and then develop it with the necessary utilities and roads. It will have to be two different loans, one for the land acquisition (compensation issue16) and another for the development of the land.

The interest rate (USD funding) with a government guarantee will be around 12 per cent, one year grace period (construction period normally), tenor five to seven years (max.), the capital structure will be 60/40 or, at best, 70/30 of debt/equity.

Furthermore, it has been discussed with the bank that for the next stage of the project, the companies that want to settle down in the SEZ and build property will find it easier to obtain loans if the bought land is titled compared to the alternative of leasing or renting.

16 Compensation issue: The Government will pay the people living in the designated SEZ area full compensation. It is therefore their responsibility to go and settle wherever they want to settle. However, it was previously agreed that Bagamoyo District Council will look for an area for new settlements.
The terms of funding for these companies are again an individual assessment of the risk associated with the loan.

The following advice on the further process of Bagamoyo SEZ was given by the commercial bank:

› The bank’s recommendation is to integrate the port in the project in order to ensure better financing terms for the SEZ: land acquisition and the development as a project with a port will generate higher demand for the land close to the port.

11.3.6 Cost of Land

The Government of Tanzania is the legal owner of the identified Bagamoyo SEZ site; however, compensation and resettlement will be required for the people living or owning houses there.

EPZA currently estimates the cost of compensation and resettlement to Tshs 55 billion for valuation of approximately 4,000 ha, corresponding to USD 34 million. The cost of compensation and resettlement has been scaled up to also include the full area of the SEZ, amounting to additional USD 54 million, so that total compensation and resettlement amount to USD 90 million.

It is assumed that settlements and/or houses\(^\text{17}\) occupy about nine per cent of the land, and the cost of land is set to an average of USD 10 per m\(^2\) (in year 2013) which will mainly include the compensation to the people living in the area. The compensation in each case will depend on the type of structure (house, settlement, facilities etc.) which is expected to vary within the communities.

11.4 Result of Financial Analysis

The main results of the financial analysis are presented in the following. The results are based on various assumptions as outlined in above sections for the financial sources, the investment costs, SEZ development plans and demand for plots by industries etc.

As the SEZ concept is still at an early stage, the preconditions may change and impact the results. Consequently, the financial analysis is supplemented by a sensitivity analysis to observe the impact from changes in selected critical parameters.

The main financial indicators are FIRR, FNPV and minimum DSCR (and DSCR after three years).

The financial analysis and sensitivity analysis are developed in an Excel model which is made available to the client.

\(^{17}\) Information about the exact number of settlements living in the SEZ area needs to be further reviewed before the full scope of compensation and resettlement can be determined.
Based on the assumptions made for the financial analysis using the base case demand for industrial plot, the main financial results are shown in the two tables below for respectively compensation and resettlement at the beginning or postponed in line with demand for plots.

Table 11.4 Main results of the financial analysis (discount factor 6%) and if all compensation and resettlement is made in year 2013

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRR</td>
<td>18.5%</td>
</tr>
<tr>
<td>NPV (USD)</td>
<td>593,448</td>
</tr>
<tr>
<td>DSCR min.</td>
<td>0.73</td>
</tr>
<tr>
<td>DSCR min. from year 4 of operation</td>
<td>1.08</td>
</tr>
</tbody>
</table>

Source: Consultant’s assumptions based on the financial analysis in Technical Paper 5.

The results of the financial analysis give a financial Internal Rate of Return of 18.5% indicating a reasonable financial viability. The debt service cover ratio is in the first years 0.73 which may be regarded as critical as additional financial support will be required to cover for the deficits in those years. After the 3rd year the DSCR increases to 1.08 ensuring better debt service coverage in the following years in line with improved revenue generation. The project will, based on the investment scope and the taken assumptions, face liquidity difficulties during the first 3 years amounting to around USD 20 million, and financing will accordingly have to be identified. The DSCR becomes sufficient in the years after the port concession and is increasing in the following years indicating considerable improvement in the debt service coverage.

Table 11.5 Main results of the financial analysis (discount factor 6%) and if compensation and resettlement is made as demand progresses.

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<td>FIRR</td>
<td>20.3%</td>
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<td>NPV (USD)</td>
<td>594,312</td>
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<td>DSCR min.</td>
<td>0.88</td>
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<td>DSCR min. from year 4 of operation</td>
<td>1.17</td>
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Source: Consultant’s assumptions based on the financial analysis in Technical Paper 5.

As seen from the table above, the FIRR increases to 20.3 per cent and provides slightly improved DSCR if the cost of compensations and resettlement is postponed in line with the progress of demand. Furthermore, it is evident that the concept of Bagamoyo SEZ and its advantages for industries must be promoted with assistance from the various associations and federations representing industries in Tanzania to maintain its competitiveness.

11.4.1 Recommendations for Price Policies

The demand for plots has proved to be directly related to the cost of lease/rent, but, in particular, also the potential benefits and advantages that the private companies can gain from entering the SEZ membership compared to other alternatives, such as tax advantages, facilities, company network, access to port facilities etc.
The price of land is much higher in the Dar es Salaam industrial areas, and the cost of land, offered by Bagamoyo SEZ, might be a 1/3 of the price under the conditions outlined by the master plan for the area.

It is recommended that the sales/rent/lease price of plots as minimum reflect the cost of operations and maintenance, provision of facilities and return on infrastructure and development investments of the SEZ etc.

The base case scenario of the financial analysis assumes a sales/rent/lease price of industrial plots of USD 115 per m² for phase 1 (2014 to 2018), USD 131 per m² for phase 2 (2019 to 2025) and for phase 3 USD 148 per m² (2026 and on).

The proposed level of sales/rent/lease is based on a combination of ensuring an adequate financial return based on the assumptions made for the analysis as well as experience from Kamal Industrial Estate, which presently sells plots for USD 79 per m² on a 99-year basis, although not providing the same level of site development on the actual plots as assumed for Bagamoyo SEZ. The estimated sales price at Bagamoyo therefore corresponds to the level at Kamal plus the estimated sales value of the development of the plots. This implies that the SEZ addresses the type of customers that will demand and are willing to afford a higher level of infrastructure serviced plots than is offered by e.g. Kamal.

The land sales/rent/lease price for port, commercial, residential areas is assumed to be USD 20 per m² for the base case. The rent/lease price of land for institutional areas is set to USD 0 (nil).

The EPZA/administration of the SEZ should consider maintaining the price level of land throughout the different phases in order to avoid too many differences in the sales prices between the tenants, and in order not to devaluate the attractiveness of the SEZ. On the other hand, there should also be room for some price increase of developed plots, reflecting an increase in the value of plots as the SEZ becomes more developed and attractive to companies over the years.

It is therefore important that the EPZA/administration already from the beginning has a clear and transparent pricing policy towards its future customers.
12 Implementation Action Plan

In this chapter a scheme for implementation of the master plan is set up. It describes recommended actions, summarizes the estimated need for financial resources and proposes mechanisms to monitor and review the implementation according to key elements of the master plan.

The implementation action plan is a step-by-step guide for the development of Bagamoyo SEZ. The following highlights key actions, milestones and timeframes for the implementation of the SEZ.

The implementation action plan is a 20-year road map with associated timeframes and milestones for all aspects of the project, which can be used as a guide to develop the SEZ. The implementation plan includes:

› A list of actions to be undertaken in the short, medium and long term
› An estimate of the financial resources required to be made available to undertake the actions proposed
› A schedule of time-bound milestones that can be used to evaluate progress against the implementation plan, and a proposed mechanism for monitoring and adjusting the plan and milestones, as required

The strategy will be an element to ensure the successful implementation of the planning policies and guidelines in the master plan for Bagamoyo SEZ. The implementation action plan is thus related to the phasing plan for the industrial component of the SEZ.

12.1 List of Actions

The implementation action plan presents recommendations according to the following time periods: short-term, medium-term and long-term. The implementation action plan recommends a systematic series of actions that will advance the opportunities and master plan vision.
The list of actions to be taken when implementing the Bagamoyo SEZ master plan is divided between the three phases according to the master plan. Actions are described in further details in Technical Paper 7.

The implementation action plan also reflects the subdivision of phase 1 into four parts (1A, 1B, 1C and 1D) and phase 2 into two parts (2A and 2B) as shown in Figure 12-1 below.

However, it should be noted that a full strategic environmental assessment (SEA) of the master plan, including ways to mitigate effects on the surroundings, must be carried out before the final proposed plan is submitted for adoption by the relevant ministries of government. As a supplement for the SEA – or incorporated into the SEA document – a resettlement action plan (RAP) should be prepared.

Furthermore, all infrastructure construction both on-site and off-site is subject to assessment according to Tanzanian EIA legislation. An assessment is to be carried out when infrastructure projects are designed and engineered.

12.2 Schedule of Milestones

Scheduling the development is a very important element in a project execution plan. Milestones are considered important key elements through the progress of implementing the master plan.

Through the previous chapters, the following key elements were identified:
Prerequisite components:
› Conduct impact assessment of the master plan (SEA/RAP)
› Set up a project organisation
› Prepare detailed planning
› Establish communication platform
› Carry out land acquisition.

Construction of off-site infrastructure:
› Upgrade of trunk road (when needed)
› Connection for utility services.

Construction of on-site infrastructure:
› Site development
› Fencing
› Gates
› Main roads/distributors
› Mkuza river road/coastal road.

Administrative service centre:
› Administration hub
› Customs
› Security
› Commercial services.

Outside the industrial area, other actors than EPZA are responsible for the activities, such as the TPA constructing the port, RAHCO constructing the rail etc.

12.2.1 Execution of Prerequisite Tasks
Before the actual implementation of the master plan can commence, a number of milestones must be reached, corresponding to the key elements in the form of prerequisite components.

Impact assessment

In accordance with Tanzanian law, an impact assessment (SEA) of the proposed master plan must be carried out before the plan is submitted for approval in the relevant ministries of government.

The SEA should provide in-depth analyses of the likely significant impacts arising from the plan, and thus provide the required information being fed into the decision-making process of adopting the master plan and, if needed, revising the proposed plan.

The assessment should include the following issues: Climate, air quality, noise, soil quality and geology, surface water and ground water. In addition, the biological environment is to be assessed, including vegetation, flora and fauna, animals, and protected and special areas. The SEA is described in detail in Appendix B.
If social effects are included in the SEA, it should provide accurate information regarding the potential social effects of the project as early in the project development cycle as possible. This would form the basis for a resettlement action plan (RAP) and is especially important for a project that involves involuntary resettlement – the economic and/or physical displacement of people.

The RAP must identify the full range of people affected by the project and justify their displacement after having considered alternatives that would minimize or avoid displacement. The RAP outlines eligibility criteria for affected parties, establishes rates of compensation for lost assets, and describes levels of assistance for relocation and reconstruction of affected households.

### Project organisation

Through analysis of different models for organising the implementation of the master plan, it is concluded that a public-private partnership (PPP) approach would both be feasible and suitable within the current context. Regardless of the role of the public sector and of private parties respectively, a project organisation should be set up as soon as possible, that is when a decision on this issue is reached.

PPP is funded and operated through a partnership of government and one or more private-sector companies and involves a contract between EPZA and a private party. The cooperation and venture between the government service or a private business should be described in detail before setting up the project organisation.

When forming the organisation, effective partnerships must be ensured and the capacity of staff and partners developed. In a PPP, the government and the private sector each retain their own identities and responsibilities. They collaborate on the basis of a clearly defined division of tasks.

### Detailed planning

According to the phasing and demand forecast, land acquisition for both phases 1 and 2 should be completed as soon as possible. Acquisition of land is a prerequisite element for undertaking the development of the SEZ, including preparation of detailed planning, demarcation of zones for utility services and design of infrastructure.

Before site development can begin, detailed planning of the areas involved must be provided. This should include statutory spatial planning to invoke the basis for urban development in the SEZ and also detailed project planning for constructing infrastructure both on-site and off-site.

Engineering and design for all infrastructure elements (roads, water, sewerage, electricity etc.) should be provided as a starting point for spatial planning.

### Communication plan

In order for the surrounding community to gain an understanding and acceptance of the development of the SEZ, a communication plan should be developed at an early stage. It is recommended to contract a professional communication agency to develop the communication plan and to implement the communication activities to be outlined in the plan. The terms of reference for the assignment should include the following:

- Identification of the relevant target groups
12.2.2 Project Implementation Plan

This section provides guidance on the steps to follow in the implementation of the master plan. The implementation stage is essentially the process of putting the design into action and is related to the key elements identified above.

It is important that the infrastructure and utilities are planned properly when implemented within Bagamoyo SEZ to ensure high-quality infrastructure and utilities.

It is essential that EPZA or the project organisation creates a dialogue with the utility companies to explore the need for expansion of the present supply lines. Especially, it is assessed that the present supply of power is insufficient. It is important to secure supply of power to the area, as this could be one of the selling points for the SEZ to the industries.

The dialogue with DAWASA and TANESCO among others should conclude how to secure supply of utilities in regard to both quantity/volume and the alignment of supply lines, that is power lines, water pipes etc.

When an agreement is reached and supply lines are laid out, designed and engineered, the off-site infrastructure must be built to ensure supply of utility services, mainly power, gas and water.

The traffic system in Bagamoyo SEZ is connected to the Bagamoyo-Dar es Salaam trunk road. During the early stages, it is foreseen that the design for arterial roads with two or four lanes is sufficient, but it is assessed that it will be necessary to upgrade the Bagamoyo-Dar Es Salaam trunk road to four lanes at the end of phase 1.

It is to be resolved whether a public sector authority or the SEZ is responsible for constructing off-site infrastructure.

When detailed planning is prepared and adapted and the necessary land acquisitions are made, the site development can commence with construction of roads, utilities and the layout of industrial plots. For the area to be developed in phase 1, a subdivision in four stages is introduced. For stage 1A, an area of 180 ha is to be developed and connected to infrastructure and utilities. Stages B, C and D of phase 1 can be developed successively when needed.

Before the SEZ can be used, gates and fencing of the relevant area must be constructed according to security and customs regulations for a special economic zone. Initially, at the perimeter of the SEZ, a permanent fence must be built, and at the border of the phase 1 area, a temporary fence can be built.
For phases 2 and 3, a similar approach to site development can be applied.

In order to ensure road service to the Uongozi Institute, the road along the Mkuza River must be constructed early on in phase 1.

The planned port facilities and rail connection (including marshalling and shunting yards and rail tracks) foreseen in conjunction with the port are assumed to be established in phase 2. The primary distributor through the phase 2 area must be constructed early in this stage to ensure road service to the port. Likewise, the coastal road connecting the Uongozi Institute to the trunk road should be extended, passing the port and the Kaole Ruins and connecting to the trunk road north of the SEZ.

The service centre and administrative hub located adjacent to the main gates constructed where the phase 1 and 2 areas are connected to the trunk road must be planned and developed to enable multifunctional use. They must be ready for use and operational when the first investors move into the SEZ and are to accommodate administrative facilities, customs and security as well as commercial services and business.

### 12.2.3 Monitoring and Adjusting Planning Approach

Last but not least, to improve the chances of success, attention needs to be placed on monitoring and evaluation, as projects with institutionalized monitoring and evaluation components tend to stay on track. Additionally, problems are often detected earlier.

To ensure a consistent implementation of the master plan, it is required to set up mechanisms to monitor, review and adjust the plan.

The successful implementation of the plan is primarily dependent upon key elements like:

- Acquisition and resale of land to private investors
- Site development
- Creation and construction of facilities.

These elements recur in each of the three phases. Monitoring is therefore an ongoing process by which regular feedback on the progress being made can be obtained. Evaluation is a rigorous and independent assessment of either completed or ongoing activities in each of the three phases to determine the extent to which they are achieving the planned objectives. If necessary, the plan for land acquisition, site development etc. must be adjusted. Land acquisition for phases 1 and 2 has already been carried out so it is only possible to adjust land acquisition in phase 3.

As described, land acquisition is to be conducted according to the demand forecast. With the phasing of the plan, it is very important to monitor the rate of land
attainment by private investors in order to review and if necessary modify the rate of acquiring land to the SEZ and the rate of site development.

It is also important to continuously monitor changes in various factors and conditions that might impact site and project investments. These include changes in socio-economic trends and demographic conditions.

With the phasing of the master plan, there is a high degree of flexibility in how the plan can be implemented. The detailed subdivision of phase 1 into four is arranged to ensure that only the necessary investments are made. The ongoing work on site development and infrastructure should be monitored and adapted regularly to match the required development and also to avoid overinvestment and premature investments.

Monitoring the implementation of the master plan should also include regular review and update of the project strategy and implementation plan to reflect changes in context, unexpected constraints or new opportunities.

12.2.4 Timeframe and Milestones
In Figures 12.2 and 12.3 below, schedules of time bound milestones and activities are included. The timeframe is adapted according to the phasing plan, as described in chapter 9.
### Figure 12.2 Timeframe and milestones - part 1.

| ACTIVITY | 2012 Q1 | 2012 Q2 | 2012 Q3 | 2012 Q4 | 2013 Q1 | 2013 Q2 | 2013 Q3 | 2013 Q4 | 2014 Q1 | 2014 Q2 | 2014 Q3 | 2014 Q4 | 2015 Q1 | 2015 Q2 | 2015 Q3 | 2015 Q4 | 2016 Q1 | 2016 Q2 | 2016 Q3 | 2016 Q4 | 2017 Q1 | 2017 Q2 | 2017 Q3 | 2017 Q4 | 2018 Q1 | 2018 Q2 | 2018 Q3 | 2018 Q4 | 2019 Q1 | 2019 Q2 | 2019 Q3 | 2019 Q4 | 2020 Q1 | 2020 Q2 | 2020 Q3 | 2020 Q4 | 2021 Q1 | 2021 Q2 | 2021 Q3 | 2021 Q4 | 2022 Q1 | 2022 Q2 | 2022 Q3 | 2022 Q4 | 2023 Q1 | 2023 Q2 | 2023 Q3 | 2023 Q4 | 2024 Q1 | 2024 Q2 | 2024 Q3 | 2024 Q4 | 2025 Q1 | 2025 Q2 | 2025 Q3 | 2025 Q4 | 2026 Q1 | 2026 Q2 | 2026 Q3 | 2026 Q4 | 2027 Q1 | 2027 Q2 | 2027 Q3 | 2027 Q4 | 2028 Q1 | 2028 Q2 | 2028 Q3 | 2028 Q4 | 2029 Q1 | 2029 Q2 | 2029 Q3 | 2029 Q4 | 2030 Q1 | 2030 Q2 | 2030 Q3 | 2030 Q4 | 2031 Q1 | 2031 Q2 | 2031 Q3 | 2031 Q4 | 2032 Q1 | 2032 Q2 | 2032 Q3 | 2032 Q4 | 2033 Q1 |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
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Figure 12.3 Timeframe and milestones - part 2.

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12.3 Estimate of required financial resources

Preliminary assessments of infrastructure needs for different infrastructures have been developed. An estimate of required resources for site development and construction of on-site infrastructure is given in chapter 9 and further detailed in Technical Paper 3.

In principle, there are five basic models for developing the SEZ as illustrated in Figure 12-4. Given the strategic importance of the Bagamoyo SEZ project and given the need for substantial off-site infrastructure investments, it is assessed that a contractual PPP would be preferable for developing the SEZ. This model also constitutes the preferred approach for developing large economic zones in non-industrialized countries.

![Figure 12.4 Best practice development options for the SEZ.](image)

At present, it is assumed that the necessary site development will be provided by the EPZA/administrator of Bagamoyo SEZ.

The cost estimates of investment alternatives consist of different components covering resettlement and compensations of settlements in the SEZ area, site development for the industrial component, road construction and development of other site infrastructure and utility services.

The cost estimate for resettlement and compensation will amount to USD 90 million, if made in year 2012.

The investment cost estimates for on-site infrastructure and site development in the three phases are presented below.
Financing of the investments required for Bagamoyo SEZ is assumed (Technical Paper 5) to consist of a combination of government funds, private-sector funds (through PPP) and commercial bank loans. To secure a successful implementation of the master plan, the EPZA or the established SEZ organisation must develop annual work plans, including annual budgets.
Appendix A  Terms of reference

A. Background

The Export Processing Zones Authority (EPZA) was established as an autonomous government agency in April 2006 by the EPZ (Amendments) Act No 3 of 2006. The Authority is supervised by the EPZ Council, operating under the Ministry of Industry, Trade and Marketing. The EPZ is one of the strategies adopted by the Government of Tanzania to stimulate rapid economic growth through industrialization of the country.

In order to broaden the scope of the EPZ Scheme thereby attracting more investors; the Government intends to develop a modern Special Economic Zone (SEZ) at Bagamoyo. Bagamoyo SEZ will be in the form of a Satellite township with integrated social and economic activities. The SEZ will include a modern port to be developed at Mbegani and an international airport at Zinga. It will have areas for industries, tourism, trade, social services and residential areas. It will also have all essential logistical infrastructures and utilities services.

B. Purpose of the TOR

These TOR are prepared to guide the consultant when executing the assignment of preparing the master plan for Bagamoyo Special Economic zone.

Background of work undertaken to date (ICRA Feasibility Study)

In order to realize the Bagamoyo SEZ concept, in February 2010, the Government of Tanzania through EPZA conducted a detailed feasibility study to determine the financial and economic analysis of the envisaged SEZ and to develop the land use plan for the area.

Description of the Site

The Bagamoyo SEZ is located about 50km north of Dar es Salaam city along the Dar es Salaam – Bagamoyo road. A total of 9081 hectares have been earmarked for that purpose. The earmarked area occupies the villages of Zinga, Kiromo, Pande, Kondo and Mlingotini in Bagamoyo District.

Need for a Master Plan

Development of the Master plan for Bagamoyo Special Economic Zone aims at designing an important tool to effectively and efficiently guide both the physical and economic development process at the site.

C. The Master Plan Components

This master plan will be comprised of the following components:

- **Component 1**: Demand Forecasts
- **Component 2**: Master Planning
- **Component 3**: Infrastructure Requirements and Cost Estimations
- **Component 4**: Environmental and Social Assessment
- **Component 5**: Financial Modelling
- **Component 6**: Development Options for the Bagamoyo SEZ and An Institutional Framework Review
- **Component 7**: Implementation/Action Plan
Component 1: Demand Forecasts

The activities under Component 1 are to: i) review existing background information, documents, reports, maps, statistics and meetings on the Bagamoyo SEZ, ii) visit the site and meet with all stakeholders to discuss key master planning issues, iii) prepare a 20-year demand forecast for the industrial component of the project, and iv) determine the total population proposed for the Bagamoyo SEZ as a whole, and break down these statistics further to identify the amount of space required for residential, commercial, institutional, entertainment and open space activities in the SEZ as a whole, over a 20-year timeframe. This demand forecast will be key in developing the master planning for this project.

Activity 1: Review of Existing Studies/Information and Hold Stakeholder Meetings

The consulting team will visit the Bagamoyo SEZ site and also meet with the EPZA, relevant Ministries, government agencies and utility agencies, as well as interested stakeholders (private and public sectors), as need be, to get acquainted with the project and understand the stakeholders issues regarding the SEZ project. (Some of these stakeholders should include, but not be limited to the Ministry of Industry, Trade and Marketing, the Ministries of Infrastructure Development, Energy, Water, Lands, Housing and Human Settlements Development, Environment, City and Municipal Councils of the Districts, DAWASA, DAWASCO, TANROAD, TANESCO, TTCL, Tanzania Airport Authority (TAA), Tanzania Investment Centre (TIC), Board of External Trade (BET), Tanzania Port Authority (TPA), Land Use Commission, NEMC, and indigenous groups/ civil society.) The consulting team will document all stakeholder meetings. These meeting notes will be given to the EPZA at the end of the project.

In addition, the consulting team will examine all background information previously prepared on the project which includes: relevant laws, policies, decrees, district/planning maps, existing studies, documents, and reports to understand the key/unique development parameters and master planning issues for the SEZ site. This is the due diligence phase of the project.

Deliverable:
1. A list of meetings and associated interview notes will be provided to EPZA for their review.

Activity 2: Develop a 20-year Demand Forecast for the Industrial Component of the Bagamoyo SEZ

The consulting team will prepare a 20-year, detailed demand forecast for the industrial component of the Bagamoyo SEZ. The demand forecast will identify the number, type and size of companies to move into the industrial component of the zone per year over a 20-year period, as well as, how much land each company will utilize and the number of staff they will employ. The demand projections shall be developed under three scenarios: i) a conservative case, ii) a base case, and iii) an aggressive case. The methodology for the demand forecast and the assumptions for each scenario should be clearly stated in the final report. The consulting team's demand forecast worksheets should also be placed in an Appendix in the final report for review by the EPZA.

Deliverable:
1. A 20-year, detailed demand forecast for the industrial component of the Bagamoyo SEZ. Three scenarios will be presented that will identify the
number, type and size of companies moving into the zone per year, over a 20-year period. It will also identify how much land each company will utilize and the number of staff they will employ.

Activity 3: Develop a Broad-Brush Demand Forecast for the Bagamoyo SEZ, as a Whole
In order to determine additional and supporting uses in the Bagamoyo SEZ, a broad-brush demand forecast is required. As such, the consulting team will identify total population predicted for the SEZ over a 20-year period, as well as, identify the amount of land required for residential, institutional (educational, health, community centres, police and fire facilities etc), commercial and retail, entertainment uses and open space/parks over this same 20-year timeframe. The demand forecasts in Activities 2 and 3 will be used as the base for the Master Planning under Component 2.

Deliverable:
1. A broad-brush, 20-year demand forecast for the SEZ, as a whole. This forecast will identify the residential population of the Bagamoyo SEZ and the amount of land required for residential, institutional, commercial, entertainment, and open space uses over the 20-year timeframe. The findings should also highlight population and land requirements in 5-year periods.

Component 2: Master Planning
The objective of this component is to: i) prepare a planning framework (a development policy and planning principles) for the Bagamoyo SEZ, ii) develop a structure plan and best practice master plan, iii) design a zoning plan, iv) create a phasing plan for the site, and v) introduce design guidelines to maintain a high quality environment within the industrial portion of the zone.

Activity 1: Prepare a Planning Framework for the Bagamoyo SEZ
The consulting team is to develop a planning framework for the SEZ. This will include:
- Developing a planning policy for the site
- Preparing planning principles for the site
- Creating a vision (value proposition) for the development of the zone

The consulting team should develop the new planning framework for the SEZ and then identify any required changes to the existing planning law, policy and/or framework already in place in the Bagamoyo District or at the national/regional level. The new planning framework must be undertaken with consideration to the Government of Tanzania's (regional and local level) planning objectives and the EPZAs mandate.

Deliverable:
1. A planning policy for the Bagamoyo SEZ, which includes planning principles, and a vision for the entire zone.

2. Identify any necessary changes to the existing planning law or framework for the Bagamoyo District or at the national/regional level.

Activity 2: Develop A Structure Plan for the Bagamoyo SEZ
Based on the planning framework developed above, the consulting team will prepare a Map of the SEZ Site that identifies existing opportunities and constraints
of the site and from there, the team will develop a Structure Plan for the Bagamoyo SEZ. This Structure Plan will be a broad-brush development plan for the entire SEZ, based on the demand forecast in Component 1. The Structure Plan will set out:

- Location and size of key land uses (residential, industrial, commercial, institutional, entertainment, and open space/protected areas etc) and minimize land use conflicts and adjacency issues
- Address access issues to the various land uses on the site
- Identify key roads and transportation linkages to a new airport, a new seaport, a new rail link and highways to the EAC
- Other key issues

The Structure Plan will also include the following:

- Provide a written description of permitted land uses for the SEZ site. Ie. Institutional- Universities, Schools, Fire Stations, Police Stations, Community Centers etc. Note: To follow best practice in SEZ industrial development, a negative list will be developed for the industrial component of the project.

**Deliverable:**

1. A Map that highlights development opportunities and constraints on the site.
2. A Structure Plan for the Bagamoyo SEZ.
3. A list of permitted land uses for the SEZ site. A negative list of uses will be provided for the industrial component of the project, to keep with best practices.

**Activity 3: Prepare A Best Practice Master Plan for the Industrial Component**

The consulting team is to prepare a best practice Master Plan/Land Use Plan for the Industrial Component of the Bagamoyo SEZ. Based on the Structure Plan, determine the following:

- Identify the location for the first few phases of industrial development (This is the starting point of the project.)
- Prepare a detailed, best practice Master Plan/Land Use Plan for the industrial component of the project. This should be developed to minimize land use conflicts and adjacency problems.
- Develop a simplified Zoning Plan for the industrial component of the SEZ. This will include developing setbacks, height limits, appropriate densities, and open space requirements.
- Prepare a Phasing Plan for the industrial component of this site.
- Develop design guidelines for the industrial component of the site.

The industrial component of this zone should be designed and developed as a commercially viable project. It should also try to maximize the number of leasable plots and to optimize the plot to infrastructure ratio. This means that all road networks should be designed to be efficient, to mitigate possible transportation problems such as congestion, and to be able to handle heavy trucks, if required.

To support the industrial component of the SEZ and to ensure a high quality of development is maintained, design guidelines should be prepared for the industrial zone and they should include, but not be limited to, the following. Note: These
guidelines would be given to the potential SEZ investors to assist them in constructing their own industrial facilities in the SEZ. The elements that the design guidelines would address are:

- Orientation of buildings on the plot
- Building facades (no blank walls)
- Access to the plot
- Setbacks, height limits and densities
- Landscaping requirements
- Parking and loading requirements
- Signage requirements

**Deliverable:**

1. A master plan/land use plan for the industrial component of the project with an associated zoning plan, phasing plan and accompanying design guidelines.

### Component 3: Infrastructure Requirements and Cost Estimations

**Activity 1: Infrastructure Requirements and Associated Cost Estimates**

The consulting team will take the best practice Master Plan for the industrial component of the SEZ and develop infrastructure concept plans for it. These will include detailed plans for: i) roads ii) water and water treatment, ii) electricity and gas, iv) storm water, v) wastewater/industrial water/solid waste, vi) effluent treatment plant, vii) street lighting and fencing, and viii) telecommunications etc on the industrial component of the site only. If the team would like to provide additional drawings such as cross-sections and/or elevations or drawings for pre-built facilities, administration or custom buildings etc to support the understanding of the master plan, they are encouraged to do so. Infrastructure drawings should be concept plans not construction drawings and these plans should be produced at a size that can be reduced and included in the final report. All infrastructure plans must be readable and be properly explained in the body of the final report.

Although the above infrastructure will be designed in a comprehensive manner, it must also be designed in phases and for the types of industry sectors being proposed for the zone. By doing this, the industrial component of the zone will not be overbuilt and will always be linked with market demand. In turn, this will help eliminate a common error in SEZ development—overdevelopment of infrastructure.

In order to determine a project IRR, all infrastructures for the industrial component of the project must be costed. As mentioned above, these cost estimates should be done by phase, matching the master plan’s phasing plan. This will allow for a more accurate picture of the project’s total development costs. The costs for infrastructure should also include any earthworks to be done to the land to prepare it for development as well as land costs (purchase costs). All these costs will be fed into the financial model in Component 5. A +/-15% contingency is acceptable on the infrastructure costing.

In addition to designing the on-site infrastructure for the industrial component of the zone, the consulting team will also identify: i) what type of off-site infrastructure is required and/or what improvements/upgrades are needed (roads, water/electrical lines, substations etc) to allow off-site infrastructure to better support the success of the project (focusing on the industrial component), ii) who
will be financially responsible for this infrastructure (utility providers, private or public sector) and iii) the implementation hurdles/timing of off-site infrastructure in order for it to not delay the first phases of the SEZ. This off-site infrastructure should be identified as short, medium, or long-term projects.

**Deliverable:**
1. A set of infrastructure concept drawings for the industrial component of the SEZ, which correspond to the master plan and phasing plan.

2. A detailed set of cost estimates for all infrastructure within the industrial component of the project. These estimates should be presented by phase.

3. An overview of necessary off-site infrastructure needs/improvements/upgrades, in order for the SEZ to be successful with special attention to the industrial component of the project.

**Component 4: Environmental and Social Assessment**

**Activity 1: Environmental and Social Assessment**
The consulting team will assess the environmental and social issues associated with the SEZ site. This is not intended to be a full environmental impact assessment (EIA) or social impact assessment (SIA) but a more stringent/detailed examination of the site than was undertaken in the ICRA Feasibility Study.

A review of the physical and social environment should be undertaken and should include, but not be limited to: i) climate, ii) air quality, iii) noise, iv) soil quality and geology, v) surface water, and vi) ground water. In addition, an assessment of the biological environment should be undertaken and should include, but not be limited to: i) vegetation, ii) flora and fauna, iii) animals, and iv) protected areas or special areas in the surrounding community. Lastly, a review of the human environment should be undertaken and should include, but not be limited to: i) agriculture and the community, ii) land rights, iii) housing and immovable property, iv) gender issues, v) schools and community centres, vi) health and safety, vii) socioeconomic concerns, viii) resettlement issues, and ix) historical and cultural aspects of the social environment. The above work should be completed through site visits, meetings with the inhabitants/residents of the lands, research, surveys, and maps (historical and present day). At this point, soil or air testing is not required.

While undertaking this review, the consulting team should keep in mind that the SEZ will be utilized for industrial uses and as such, any adjacency issues (clean industries next to dirty industries or industries in close proximity to residential communities) or any future impacts on the environment must be identified. The consulting team should provide recommendations for next steps with regard to the environmental and social issues on the SEZ and specifically within the industrial component of this project. This may or may not include recommending the start of an official EIA and/or SIA.

**Deliverable:**
1. An environmental and social assessment of the site with recommendations on next steps.
Component 5: Financial Modelling

The intent of this component is to ensure that the industrial component of this project is financially viable and provides economic benefits to the greater community.

Activity 1: Financial Model
Based on the demand forecast, the master plan and the infrastructure cost estimates for the industrial component of the project, the consulting team will develop a financial model and perform a financial analysis on the industrial component of the project to determine its feasibility in the short, medium and long term (over a 20-year timeframe). The financial model will examine capital expenditures, operating costs, and product configuration and pricing policy, as well as, should indicate the internal rate of return (IRR) of the project and undertake sensitivity analyzes.

The financial model and all its assumptions must be approved by EPZA in advance of the work, and the worksheets must be available at the end of the project for review by EPZA. Items to be undertaken in this task include, but should not be limited to:

- A financial model with balance sheets, income statements and cash flow requirements of the industrial component of the project over a period of 20-years
- Recommendations on a pricing policy for industrial plots and product configuration options (such as types and forms of leases and other services to be provided within the SEZ)
- Sensitivity analyzes on critical factors such as construction costs, demand and/or potential income fluctuations

Deliverable:
1. A financial model and sensitivity analyzes for the SEZs industrial component.
2. Recommendations on a pricing policy for the industrial plots.

Component 6: Development Options for the Bagamoyo SEZ and an Institutional Framework Review

This component examines options for developing/financing the SEZ as a whole, and more specifically, the industrial component of this site via PPPs, BOT, BOO, operating and management agreements and/or concessions methods. As well, it identifies the necessary changes/expansion needs of the EPZAs institutional framework/structure to allow for optimal oversight of these new SEZs.

Activity 1: Identify Best Practice Development Options for the SEZ and Industrial Component of the SEZ
The consulting team will identify and examine the potential development/financing options for the entire SEZ and specifically, the industrial component of the SEZ. I.e. PPPs, BOT, BOO, management and/or concession agreements. Each option will detail out the EPZAs responsibility, as well as, the private sector's responsibility, where applicable. It will identify risks and benefits as well as provide recommendations for the future. These options will be discussed with the EPZA before a recommendation is finalized.
Deliverable:
1. An overview of potential development/financing options and their advantages and disadvantages for the EPZA. This could include developing a bidders document for PPPs, BOTs, BOOs, or moving towards concession, operating or management agreements.

Activity 2: Review of the EPZAs Institutional Framework/Structure to Manage More SEZs
The consulting team will review the existing framework and structure of the EPZA and identify any changes in the organization or its mandate that will have to be introduced and implemented in order for the EPZA to effectively oversee an increased number of SEZs in the country. This would include a review of their in-house facilities and any new mechanisms required to monitor the new SEZs.

Deliverable:
1. An outline of how the EPZA will have to grow/adapt as an organization to oversee the new SEZs coming on line in Tanzania.

Component 7: Implementation/Action Plan
The implementation action plan is a step-by-step guide to the development of the SEZ. It should highlight for the EPZA all the key actions, timeframes and milestones for the SEZ project's implementation.

Activity 1: Prepare an Implementation/Action Plan for the Bagamoyo Zone
The consulting team will devise an implementation strategy/action plan for the Bagamoyo zone. The strategy should be a 15-year road map with associated timeframes and milestones for all aspects of the project, which EPZA will use as a guide to develop the SEZ. The implementation plan will include, but not be limited to:

- A list of actions to be undertaken in the near, medium and longer term by the EPZA and other key actors
- An estimate of the resources required to be made available to undertake the actions proposed
- A schedule of time bound milestones that can be used to measure progress against the Implementation Plan, and a proposed mechanism for review and adjustment of the plan and milestones as required.

Deliverable:
1. An implementation/action plan for all 6 components listed above, with timeframes and milestones for the development of the SEZ.

Reporting
This feasibility study should be completed over a 6-month period. The following reporting schedule is required:

- An Inception Presentation to EPZA and Stakeholders- 2 weeks after startup
- Interim report- Including Component 1, 2, 3, and 4 deliverables
- Presentation on Interim Report Findings
- Draft final report and Presentation-All 7 components
- Final report
All components and their specific deliverables should be included in the final report. The final report should include an executive summary, a list of all acronyms, and graphics, charts, and tables.

All Reports to be prepared and submitted as one (1) soft copy/electronic copy in a CD ROM format and fifteen (15) hard copies.
BAGAMOYO SEZ MASTER PLAN

has a clear and transparent pricing policy toward its future customers.
Appendix B  Proposed Terms of Reference for the Strategic Environmental Assessment of the Bagamoyo SEZ master plan

1  Introduction

The development of a Masterplan for establishing a Special Economic Zone in Bagamoyo, Tanzania is in the process of being finalised.

The Masterplan must in accordance with Tanzanian law be submitted to an environmental assessment before the plan is submitted for approval in the relevant Ministries of Government.

This paper contains the Terms of Reference for the Strategic Environmental Assessment (hereafter SEA) to be carried out.

2  The purpose and outcome of SEA

The processes developed as part of the envisaged SEA must take into consideration the basic principles and practices of applying SEA, such as¹⁸:

›  Establish clear goals.
›  Be integrated with existing policy and planning structures.
›  Be flexible, iterative and customised to context.
›  Analyse the potential effects and risks of the proposed Masterplan and its alternatives, against a framework of sustainability objectives, principles and criteria.
›  Provide explicit justification for the selection of preferred options and for the acceptance of significant trade-offs.
›  Identify environmental and other opportunities and constraints.
›  Address the linkages and trade-offs between environmental, social and economic considerations.
›  Involve key stakeholders and encourage public involvement.
›  Include an effective, preferably independent, quality assurance system.
›  Be transparent throughout the process, and communicate the results.
›  Be cost-effective.

¹⁸ Millenium Development Goals report on the principles and practices of SEA in Development Assistance, 2005
2.1 The legal context

The development of an SEA of the Masterplan for the SEZ in Bagamoyo must take into account the specific requirements and guidelines on SEA in Tanzania. This involves the review of the requirements as set forth in the Environmental Management Act, Cap 191. Furthermore, it will involve the careful review of the Regulation on Strategic Environmental Assessments from 2008. Finally, inspiration may be collected from specific Guidelines developed for projects related to the road sector development (2006) that may be useful.

3 The SEA-procedure

The SEA to be developed must take its outset in a three tier process, containing the following steps:

› Scoping of the environmental assessment, including consultation of the relevant environmental authorities
› Assessment of the Masterplan and the likely alternatives to the plan
› Reporting the Environmental Assessment, including the public consultation of the draft SEA report

The consultant is required to present a breakdown of the activities involved in each of the steps described. The breakdown must highlight:

› Brief description of the activities involved in each step of the SEA
› Identification of sources and methods applied for e.g. data collection
› Consideration of the evaluation criteria applied in the assessment, including the draft identification of possible indicators to be employed
› Consideration of the required level of detail applied in assessment in the light of available data

3.1 Consultation

Furthermore, the consultant will be required to draw up a detailed plan for the required consultation processes to be developed. The consultation plans should include the following:

› Identification of stakeholders
› Identification of relevant authorities to be consulted
› Identification of relevant organisations (Enterprise Associations, NGOs, etc.) to be consulted
› Identification of citizens that are directly affected by the adoption of the Masterplan
› Identification of other relevant stakeholders
› Propose methodology for consultation
› Propose timetable for the consultation processes
Appendix C  List of Stakeholders Consulted for SEZ Bagamoyo

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<th>Name</th>
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<td>Name</td>
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<tr>
<td>Tommy Kapinga</td>
<td>Principal Town Planner (In-charge of Dar es Salaam Master Plan)</td>
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<tr>
<td>Joseph Mashijala</td>
<td>Principal Town Planner, Ministry of Lands, Housing and Human Settlements</td>
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<tr>
<td>Jayson Kami</td>
<td>Managing Director, National Land Use Planning Commission</td>
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<tr>
<td>Elli Pallangyo</td>
<td>Assistant Director, Industry Development Department, MIT</td>
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<td>Edwin Paul Mhede</td>
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<tr>
<td>Alexander M. Ndibalema</td>
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<tr>
<td>Eng. B. S. Kilo</td>
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<td>Eng Mohamed R. Mohamed</td>
<td>Principal Signals and Telecommunications Engineer, RAHCO</td>
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<td>Eng Aminiel H. Omari</td>
<td>Principal Engineer, RAHCO</td>
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<tr>
<td>Maizo Mgedzi</td>
<td>Senior Engineer, RAHCO</td>
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<td>Vicky A. Minja</td>
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<tr>
<td>J.K Mtobesya</td>
<td>Principal Town Planner</td>
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<tr>
<td>Philbert Mashingia</td>
<td>Community Development Officer</td>
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<tr>
<td>Lucas M.Mweri</td>
<td>District Planning Officer</td>
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<tr>
<td>Michael Mlyambongo</td>
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</table>

**Bagamoyo District Council**

**Village Officials-Bagamoyo**

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<tr>
<th>Name</th>
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<tbody>
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<td>Rehema Salehe</td>
<td>VEO-Kondo</td>
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<tr>
<td>Ramadhan S.Pazi</td>
<td>Village Chairman</td>
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<tr>
<td>M.Selemani</td>
<td>VEO -Pande</td>
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<tr>
<td>Ubezi Kondo</td>
<td>Village Chairman-Pande</td>
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<tr>
<td>Mwinyihaji Mansour</td>
<td>Village Chairman-Mlingotini</td>
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<tr>
<td>Hassana Jitambu</td>
<td>VEO-Zinga</td>
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<tr>
<td>Mwinyikambi Hamisi</td>
<td>Village Chairman-Zinga</td>
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<tr>
<td>Muhamad Mwinyihamad</td>
<td>VEO-Kiromo</td>
<td>0654191821</td>
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<tr>
<td>Isiaka Mtoro</td>
<td>Village Chairman Kiromo</td>
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</tbody>
</table>
Appendix D  Minutes of meetings

(Enclosed as a separate report)
Appendix E  Maps in size A3
(Enclosed as a separate folder)