

Japan International Cooperation Agency (JICA)

**The Preliminary Study for Master Plan Formulation
On Nacala Special Economic Zone (ZEEN)**

Final Report

November, 2008



Mitsubishi UFJ Research and Consulting

AFD
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This Study has been commissioned by Japan Bank for International Cooperation (JBIC) to Mitsubishi UFJ Research & Consulting in August, 2008.

AFRICA

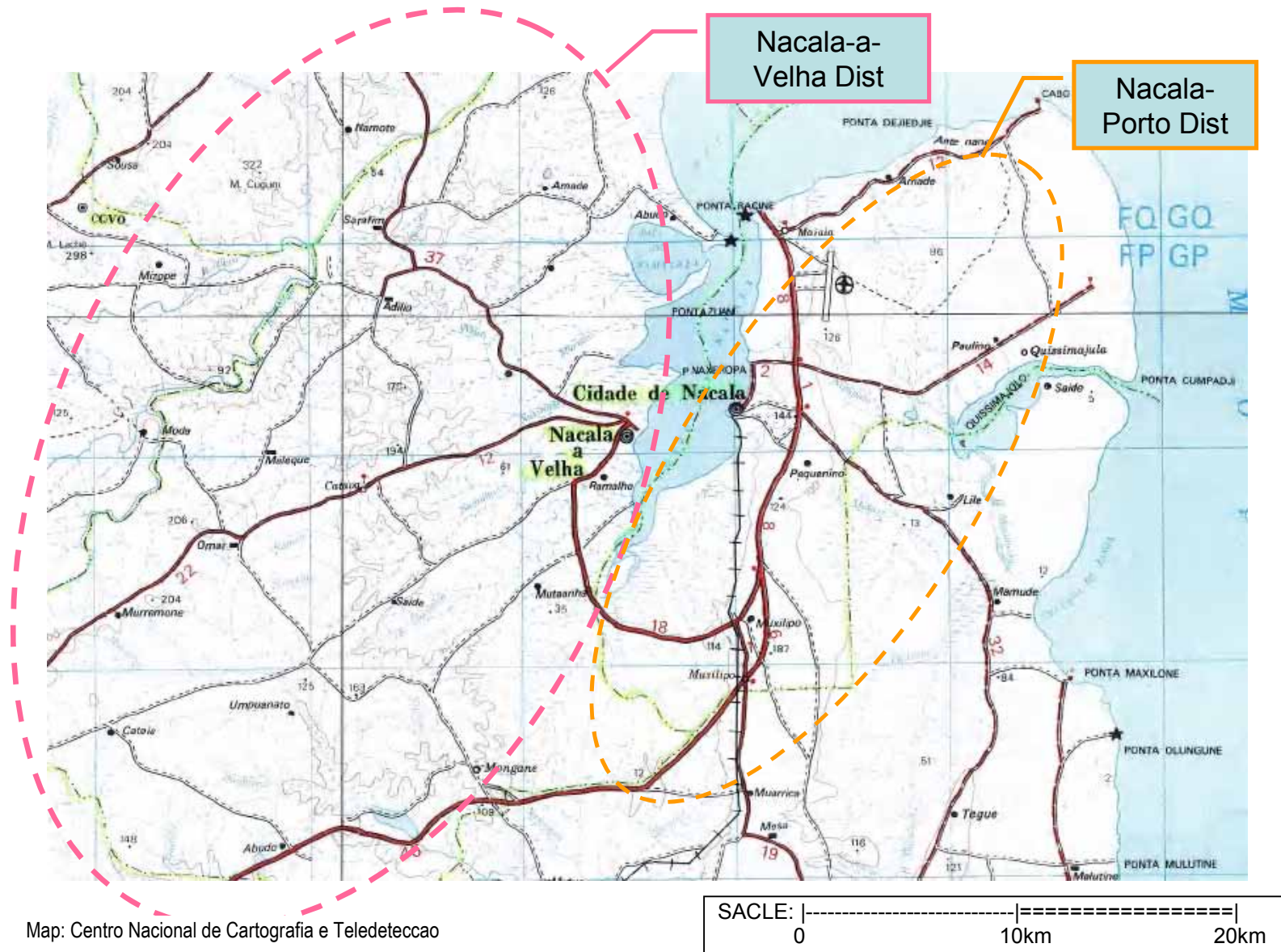


MAP: Education Place

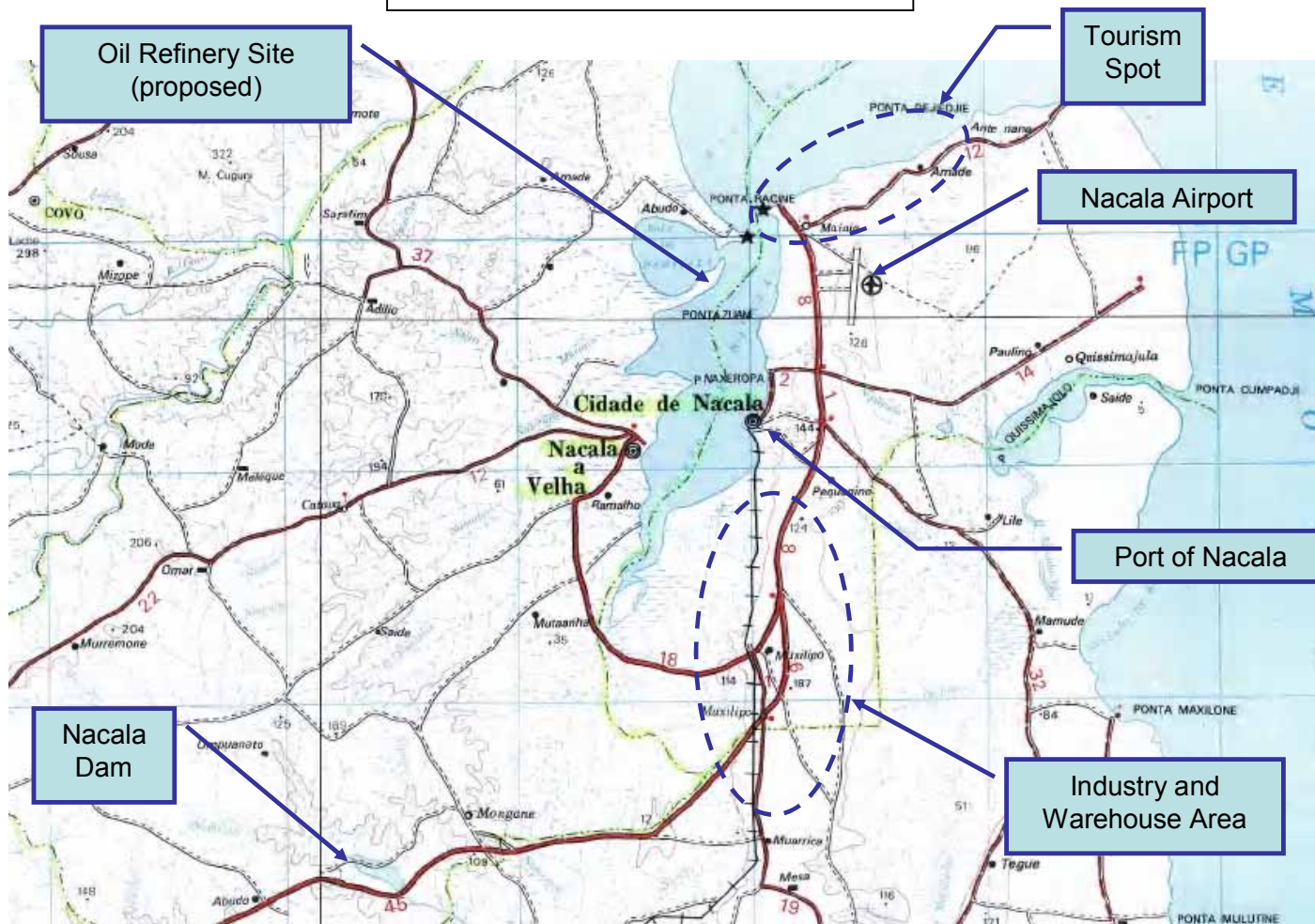
Mozambique



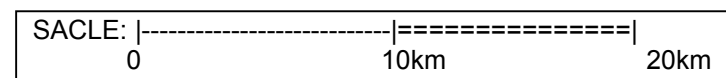
Nacala Bay and NSEZ Area



Major Current Spots in the Target Area



Map: Centro Nacional de Cartografia e Teledeteccao



Abbreviations

AfDB	African Development Bank
AGOA	African Growth and Opportunity Act
CDN	Corredor de Desenvolvimento do Norte (North Development Corridor)
CFM	Portos e Caminhos de Ferro de Mozambique
CIAMD	Center in International Agricultural Marketing and Development
CLEZ	Chan May–Lang Co Economic Zone
CPI	Investment Promotion Center
CSR	Corporate Social Responsibility
DBSA	Development Bank of South Africa
DQEZ	Dung Quat Economic Zone
DUAT	Land –Use and Development Right Certificate (Direito de Uso e Aproveitamento da Terra)
EdM	Electricidade de Mozambique
EN	National Route
ERA	Executive Research Associates
EWEC	East–West Economic Corridor
FIAS	The Multi–Donor Investment Climate Advisory Service of the World Bank
FIPAG	Water Supply Investment Fund
FTZ	Free Trade Zone
GAZEDA	Economic Zone Office for Accelerated Development
IFC	International Finance Corporation
IFZ	Industrial Free Zone
IMF	International Monetary Fund
IPEX	Mozambique Export Promotion Institute
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
MCA	Millenium Challenge Account
MCC	Millenium Challenge Corporation
MCDT	Mozal Community Development Trust
MINTEK	Specialists in Mineral and Metallurgical Technology
MOFA	Ministry of Foreign Affairs
MPD	Ministry of Planning and Development
MURC	Mitsubishi UFJ Research and Consulting
NDC	Nacala Development Corridor
NSEZ	Nacala Special Economic Zone
ODA	Official Development Assistance
PARPA	Plan of Action for the Reduction of Absolute Poverty
PPP	Public Private Partnership
PRSP	Poverty Reduction Strategy Paper
SDI	Spatial Development Initiative
SEZ	Special Economic Zone
SEZE	Special Economic Zone Enterprise
SEZO	Special Economic Zone Operator
TEU	Twenty–foot Equivelent Unit
TICAD	Tokyo International Conference on African Development
WB	The World Bank
ZEE	Zona Economica Especial
ZEEN	Zona Economica Especial de Nacala

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I INTRODUCTION

I INTRODUCTION

1. Background and Objectives

1-1. Background

(1) Mozambique Government Intention

The Government of Republic of Mozambique has established by Decree No. 76/2007¹, of December 18, the Nacala Special Economic Zone (ZEEN²) that comprises the districts of Nacala-Porto and Nacala-a-Velha with the intent of accelerating the economic development of that Special Zone, as well as the area covered by Nacala Corridor. GAZEDA³ (Economic Zones Office for Accelerated Development) has been established by the Decree No. 75/2007⁴, of December 24, and it is mandated to manage the Nacala Special Economic Zone, and the Board for the Special Economic Zones is the body responsible for the definition of strategies and policy for the development of the special economic zones and other type of free trade zones, for industrial, port and financial off-shores, in Mozambique.

With these decisions, the Mozambique Government gave a clear indication that it intends to follow, as a complement to the other development models, a model that privileges the creation of points of the economic development, (in the districts) with the primordial function of inducing the development of whole country. These points of development, as the Special Economic Zones will have the prerogative of being governed by special tax, foreign exchange, migration, labour, among other special regimes.

(2) Geographical Location

Nacala Special Economic Zone comprises the territorial extension of the districts of Nacala-Porto and Nacala-a-Velha, in Nampula Province located in Northern part of Mozambique. The Nacala Development Corridor extends its limit from the Nacala Port along the highway and railway, with direct influences in all districts of Nampula Province, the District of Gurue in Zambezia Province and the District of Cuamba, Mandimba and Mecanhelas in Niassa Province. The Corridor further extends to Southern part of Malawi and South-East part of Zambia to Lusaka.

The District of Nacala-Porto (Latitude 14 32'00'' to the South and Longitude 40 40'00'' to the East) and the District of Nacala-a-Velha (Latitude 14 32'49'' to the South and Longitude 40 37'33'' to the East) are located on the Indian Ocean coast of Nampula Province, surrounding Nacala Bay which provides natural deep sea port.

(3) Japanese Cooperation

Based on Japanese government commitment to increase ODA for Africa, on the occasion of Gleneagles Summit in 2005, Japan Bank for International Cooperation⁵ (JBIC) started new ODA loan assistance to Sub-Saharan African countries for building regional infrastructure such as roads connecting neighboring countries. In 2007, JBIC conducted a study on “Economic Corridors and Growth Poles for Private Sector Development in Sub-Saharan Africa”, which reviewed economic corridor plans including Nacala Corridor which has been identified as one of corridors with

¹ See Appendix

² Zona Economica Especial de Nacala

³ Gabinete das Zonas Economicas de Desenvolvimento Acelerado

⁴ See Appendix

⁵ JBIC merged to JICA as of October 1, 2008

prominent development potential. In a form of co-financing arrangement with African Development Bank, JBIC agreed to provide ODA loan for road improvement of Montepuez-Lichinga route in March 2007. In November 2007, Japan International Cooperation Agency (JICA) conducted a feasibility study for road improvement of Nampula-Cuamba route, and the detail designing of this route is under progress.

As a part of the assistance to promote South-South Cooperation, Japan Bank for International Cooperation (JBIC) hosted a Conference on the Industrial Development of Mozambique and Vietnam in February 2008 in Maputo and Nacala. The aim of the Conference was to promote exchange of knowledge and experiences regarding industrial development and the industrial development zones (or, special economic zones) in connection of International Corridors. In particular, it looked specifically at using Vietnam's experience in the development of industrial development zones around DaNang port in connection to the East West Economic Corridor, for the development of the Mozambique's special economic zone in connection to the Corridor of Development of Nacala.

On the occasion of TICAD-IV held in May, 2008, Japanese Government announced its intention to assist infrastructure development in Africa with maximum for 4 billion Yen by Yen Loan provision within the next five years. An application of Asian development experience to Africa one of key issues focused during TICAD-IV conference, through a form of South-South cooperation scheme by Japanese aid agencies.

(4) Request for the Study

In this connection, the Government of Mozambique requested JBIC to conduct a preliminary study that will culminate with the elaboration of the ZEEN Master Plan and, complementarily, the Development of Nacala Corridor and its areas of influence. The ZEEN Master Plan is expected to develop with the reference to Vietnam's experience in the development of industrial development zones around DaNang port.

1-2. The Objectives and Scope of Study

(1) The Objectives

The objectives of this study is to identify issues needed to be covered by the Master Plan, as a comprehensive plan to promote development of ZEEN, by the scope of the study being indicated below.

(2) The Scope of Study

Scope-1: Preliminary analysis for ZEEN Master Plan development

To provide the basic information and analytical background for developing a master plan of ZEEN at a later stage, the following tasks are to be conducted in this study, in tandem with the Government of Mozambique, including GAZEDA and the Ministry of Planning and Development.

- a) Identifying the studies already made and their eventual updating and adaptation to the existing reality,
- b) Identification of national and foreign partners that can contribute toward the development of Nacala Special Economic Zone (ZEEN) and of the Corridor of Development of Nacala,
- c) Analysis of an integrated development of ZEEN, in a horizon of 25 years,

- d) Comparison with other countries' SEZ development scenarios from which it is intended to cooperate, particularly in the cooperation among Japan, Mozambique and Vietnam,
- e) Analysis of possible functions that ZEEN is expected to provide, (such as industrial park, residential area, commercial farming, telecommunication facilities, health facilities, environmental conservation, educational institutions and research centres,)
- f) Preparation of long list of possible industries that can be attracted to ZEEN, (industries such as exporting, mining, environmental conservation and services,)
- g) Recommendations on necessary institutional and legal framework that will make ZEEN functional,
- h) Recommendations on policy measures with the intent of attracting national and foreign investments,
- i) Analysis of physical infrastructure that need to be provided for ZEEN, and
- j) Recommendations on directions of ZEEN master plan development.

Scope-2: Organizing Report Presentations in Maputo and in Nacala

The result of the preliminary analysis is to be presented at a meeting where related central and local governmental officials, port and railway operators, foreign donors, representative of private sector and other stakeholders are to be participated. The presentations are to be held at both in Maputo and Nacala, and collect comments and opinions from participants which are to be reflected in the final report.

(3) Study Team Members

The Study Team was organized by Mitsubishi UFJ Research & Consulting (NURC) through a contractual arrangement by JBIC/JICA, with the members listed below. It should be noted an expert from Vietnam participated for the second phase field study in order to share experience of economic zone development in Central Vietnam.

Chart I-1-1 Team Member List

Name	Task in Charge	Organization
Hidekazu Tanaka*	Team Leader/ Industrial Development Policy	MURC, Japan
Tetsuya Fukunaga**	Trade and Investment Promotion Policy	MURC, Japan
Hajime Onishi**	Infrastructure Development	MURC, Japan
Kenji Wakasugi*	Special Economic Zone Development	MURC, Japan
Nguyen Van Tap*** (Advisor)	SEZ Planning and Management	Quang Ngai Provincial Government, Vietnam
David Robbetz* (local consultant)	Regional Economic Development	ERA ⁶ , South Africa

* Participated Phase-1 and Phase-2 Field Study

** Participated Phase-1 Field Study

*** Participated Phase-2 Field Study

⁶ Executive Research Associates

(4) Field Study Schedule⁷

Phase-1: August 27-September 12, 2008 (Maputo, Nampula and Nacala)
Phase-2: October 12-18, 2008 (Maputo and Nacala)

2. Review of Previous Studies

There are several studies conducted by various donors and consultants regarding Nacala Corridor as well as Industrial Free Zone proposed in Nacala, as listed below. The idea of Nacala Development Corridor (NDC) originated from Spatial Development Initiative (SDI) widely discussed for various locations and routes in Sub-Saharan Africa, connecting land-locked inland resource and ports with regional development perspective⁸. This section covers outline of these studies as for reference in considering Master Plan for ZEEN.

- | |
|--|
| <ol style="list-style-type: none">1. Nacala Development Corridor (SDI): A Brief Development Perspective for Agriculture, Forestry and Fishery, by CIAMD, November 20022. The Transport Logistics and Infrastructure Framework for the Nacala Development Corridor, by Imani-TMT Trasport Consultant, prepared for DBSA, November 20023. Mineral Scan of the Nacala Spatial Development Initiative, by MINTEK, December 20024. Nacala Development Corridor Project Profiles prepared for the Investor Conference, February 2003, by Africon Mozambique5. Nacala Development Corridor: Tourism Development Perspective, prepared by International Capital Corporation, February 20036. Nacala-Porto City Structure Plan, Nacala City Municipality, July 20067. Report of Mozambique Development8. Nacala Free Trade Zone Development Study, Millennium Challenge Corporation, by TSG, December 20069. Zona Economica Especial de NACALA, Apresentacao ao Conselho Consultivo do MPD, May 200710. The Study on Upgrading of Nampula-Cuamba Road in The Republic of Mozambique, Japan International Cooperation Agency, November 200711. Economic Corridor Regional Development Project Formation Study, Japan International Cooperation Agency, February, 2008 (In Japanese)12. Joint Seminar on Industrial, Trade and Investment Promotion – Trilateral Cooperation between Japan, Mozambique and Vietnam for Nacala Corridor -, Japan Bank for International Cooperation, March 2008 |
|--|

2-1. Nacala Development Corridor (SDI): A Brief Development Perspective for Agriculture, Forestry and Fishery, by CIAMD⁹, November 2002 (A4, 73 pages)

This report focuses on agriculture sector potential in three countries along the Nacala Corridor, Mozambique, Malawi and Zambia, by citing their production, processing, local market and export market potentials. The report identified 36 items in agriculture, forestry and fishery products, as listed in the table below, starting by cashew nuts, cotton, tobacco, tea, coffee, sugar cane,

⁷ See Appendix for detail schedule and persons met during the field visit.

⁸ In Mozambique, Maputo, Beira and Nacala are three development corridors identified.

⁹ Center in International Agricultural Marketing and Development

sunflower, coconuts, cut flowers, and so on. It covers by-country comparative advantages by each products, and pointed out obstacles as; markets, infrastructure, agriculture information, services and regulations.

As for high potential agro-processing products for Mozambique, the report points out 1) Processed nuts including cashew as most promising sub-sector, 2) Edible oil from cotton, copra, sunflower, groundnuts and sesame, 3) Grain mill products mainly maize, 4) Milk and dairy products, 5) Beverages (alcohol and non-alcohol) including beer, spirits, fruit juice and soft drinks, 6) Fishery from in-land fresh water fish as well as ocean marine resources including shrimp, and 7) Bakery products.

The recommendations are made on the following six issues.

- Removal of supply side constraints
- Removal of demand side constraints
- Economic integration
- International trade
- Institutional and capacity development
- Food security insurance

Chart I-1-2

List of identified key opportunities			
Opportunity	Processing potential	Markets	
		Local	Export
Cashew nuts	X		X
Cotton	X		X
Tobacco	X		X
Tea	X		X
Coffee	X		X
Sugar cane	X		X
Sunflower	X	X	X
Coconuts	X		X
Cut flowers	X		X
Herbs and spices	X		X
Vegetables	X	X	
Potatoes	X	X	
Beans	X	X	
Onions	X	X	
Rice	X	X	X
Maize	X	X	
Cassava	X	X	
Sorghum	X	X	
Miller	X	X	
Soya beans	X	X	X
Groundnuts	X	X	X
Tropical fruits	X	X	X
Beef	X	X	
Mutton	X	X	
Goat meat	X	X	
Milk	X	X	
Broilers	X	X	
Eggs	X	X	
Ducks	X	X	X
Rabbits	X	X	
Pork	X	X	
Forestry	X	X	X
Aquaculture	X	X	X
Fishing (sea and lakes)	X	X	X
Bee honey, beeswax and propolis	X	X	X
Community Based Seed Production	X	X	X

Note: "X" marks indicate its potential opportunities.

Source: Nacala Development Corridor (SDI): A Brief Development Perspective for Agriculture, Forestry and Fishery, by CIAMD (page iii)

2-2. The Transport Logistics and Infrastructure Framework for the Nacala Development Corridor, by Imani-TMT Transport Consultant, prepared for DBSA¹⁰, November 2002 (A4, 71 pages)

This report also covers three countries related with Nacala Corridor, Mozambique, Malawi and Zambia, from transportation aspects covering Rail, Ports, Roads and Air. It consists of 8 chapters as listed below.

- 1) Background
- 2) The general economic environment
- 3) Transport routes and infrastructure
- 4) General logistics considerations
- 5) Traffic
- 6) Factors influencing modal division of traffic
- 7) General economic impacts
- 8) Conclusions

The report introduces a historical background of Nacala Corridor as: “Before the Mozambican civil war intervened, Malawi’s major transport routes were the railway lines to the ports of Beira and Nacala which conveyed most of the international trade. These lines were destroyed in the mid-1980s, and the railway has been unable to regain the traffic it lost to road. This has also affected traffic volumes through Nacala which is the best natural port on the east coast of Southern Africa and the one with greatest long-term ability to serve Malawi and the Eastern Province of Zambia.” (Cited from Executive Summary on page iv)

The report recommends the following issues to be cleared to realize the potential for further development of Nacala Corridor.

- Railway: Investment in infrastructure and equipment on the railway.
- Container: Provision of rail container terminal at Blantyre and Lilongwe. (both in Malawi)
- Corridor: Operation of the Corridor as a single, fully integrated, multimodal unit.
- Customs: Elimination of customs clearing problems for cross-border cargo.
- Road: Reform in the road transport sector.
- Port: Logistic improvement at the Port.

2-3. Mineral Scan of the Nacala Spatial Development Initiative, by MINTEK¹¹, December 2002 (A4, 40 pages)

This report reviews the development potential of mining and minerals sector along the Nacala Corridor area, also covering Mozambique, Malawi and Zambia but within the accessible region from the Corridor. The report consists of 11 Chapters as listed below.

- 1) Introduction
- 2) Geological overview
- 3) Mineral potential of the Nacala SDI
- 4) Environment
- 5) Mining investment environment
- 6) Production of cell grade alumina from the Mulanje Bauxite Deposit (Malawi)
- 7) Moma Titanium (Mozambique: Nampula Province)
- 8) Evate Apatite (Mozambique: Nampula Province)
- 9) Morrua and Marropino Tantalum Deposits (Mozambique: Zambezia Province)

¹⁰ Development Bank of South Africa

¹¹ Specialists in Mineral and Metallurgical Technology

- 10) Malawi Heavy Sands (Malawian lake shores)
- 11) Conclusions

The chapters 6 to 10 are focusing each deposits for their location, technical data and investment feasibility. As for mineral potential of the area along the Nacala Corridor (Chapter 3), the report summarizes their mining resource potential as cited below.

<p>Mozambique</p> <ul style="list-style-type: none"> ✓ Evate Apatite (Monapo Structure) ✓ Morrua and Morrino Niobium and Tantalum ✓ The Alto Lingonha Pegmatite belt ✓ Heavy mineral sands near Moma-Congolone (Kenmare Resources): ✓ Gold in alluvial deposits and quartz veins ✓ Kaolin and graphite <p>Malawi</p> <ul style="list-style-type: none"> ✓ Mulanje Mountain Bauxite ✓ Rare Earths from the Chilwa alkaline complex, Kangankunde Hill complex and Monkey Bay ✓ Titanium (Heavy mineral sands) at Salima, Monkey Bay, Unga Lake Chilwa and Tengani ✓ Various gemstone deposits from the Zomba plateau and Likudzi <p>Zambia</p> <p>No deposits of interest are currently known to occur in the area of Zambia covered by the Nacala SDI</p>

Source: Mineral Scan of the Nacala Spatial Development Initiative, by MINTEK (page 4)

2-4. Nacala Development Corridor Project Profiles prepared for the Investor Conference, February 2003, by Africon Mozambique (A4, 50 pages)

This report has been prepared by Africon Mozambique (Lda.) which was appointed by DBSA to investigate and report on the planned and programmed infrastructure projects in the northern part of Mozambique related to the Nacala Development Corridor. The report consists of three sections as listed below.

Section A: Profiles of infrastructure programmes and projects, important to Nacala Development Corridor (NDC), that have already been implemented or are currently in implementation in Mozambique for the following sub-sectors, mainly in Mozambique.

- 1) Road network
- 2) Port and rail network
- 3) Secondary and tertiary sea ports
- 4) Airports and air transport
- 5) Telecommunications
- 6) Energy
- 7) Water and sanitation
- 8) Border post development

Section B: Profiles of proposed new anchor infrastructure and logistics projects for the NDC, on the following projects.

- 1) Nacala port and rail concession
- 2) Rapid Development Zone and Nacala Industrial Free Zone
- 3) Container and cargo handling facilities at strategic points along the Nacala Railway Line.
- 4) Proposed restructuring of Nacala Military Airbase and Northern region airports

It is described, in this report, that Chinese government prepared technical study for the Rapid Development Zone, covering wider NDC area and building Industrial Free Zones in Nacala districts. The proposal was sent to Investment Promotion Center (CPI) for their consideration.

Section C: Profiles of sector investment projects and opportunities in the NDC:

- 1) Agricultural, agro-processing, forestry and fisheries
- 2) Mining
- 3) Conservation and tourism

2-5. Nacala Development Corridor: Tourism Development Perspective, prepared by International Capital Corporation, February 2003 (A4, 47pages)

This report consists of six chapters as listed below. It tries to feature tourism attraction along NDC, however, the report concludes, “Although the NDC area contains a variety of highly attractive and sometime unique individual tourism attractions it is not possible to speak of the area as a regional tourism destination at this stage. Rather, the principle tourism nodes (Luangwa Valley, Lake Malawi, Mozambique coast) operate as and are marketed to distinct niche markets.”¹²

- 1) Review of national tourism policy and strategy
- 2) NDC’s Inherent tourism development potential
- 3) Overview of the tourism sector’s performance up to date
- 4) Identification of key obstacles to tourism development
- 5) Key development opportunities for new tourism-based investment
- 6) Conclusions and recommendations

In the chapter 2, “NDC’s Inherent tourism development potential”, the report introduces tourism potential along NDC in Mozambique as:

- (1) Coastal clusters between Mocambo Bay and Ilha Matemo (including Ilha de Mozambique).
- (2) Mozambican coast on the eastern coast of Lake Niassa.
- (3) Niassa Reserve.

Likewise, tourism potential in Malawi as:

- (1) Lake Malawi.
- (2) Liwonde National Park, Zomba and Mulanje Plateaus and the Shire River.

For Zambia the tourism potential along NDC as:

- (1) Luangwa Valley with remote wilderness area of immense natural beauty.
- (2) Nyika National Park, one of Zambia’s highland with rocky outcrops and small tropical forests.

2-6. Nacala-Porto City Structure Plan, Nacala City Municipality, July 2006 (A4 Power Point slides, 34 pages, the original in Portuguese)

The report consists of the two sections;

- 1) Nacal-Port city structural plan: Current situation in environment, population density, school network, educational system, healthcare network, infrastructure, and land use.
- 2) Nacal-Port city structural plan: Development proposal for zoning and strategic anchor projects at three locations in Nacala-Porto District, one location for industrial free zone and two locations for tourism.

2-7. Report of Mozambique Development (A4, 114 pages)

¹² Cited from Page 9 of the report.

The report seems to be prepared through Chinese assistance by consultants from China. It is a comprehensive report to recommend three locations for industrial zone in Nacala, two locations in Nacala-Porto and one in Nacala-a-Velha, seemingly forming a basis for MCC study to be presented in 2006. It consists of nine chapters as listed below.

- 1) Nacala Area Development Environment and Presentation of Industrial Area Concept: Introduction of geographical location and advantages in comparison with international cargo and merchandise shipping routes.
- 2) Development Mechanism of Industrial Areas and Study on Domestic and International Cases: Introduction of industrial area, its concept and function, with experience in Asia, Taiwan, Korea, India and Mainland China
- 3) Analysis of Strategic Environment of Area Development and Formation of Strategic Objectives: Analysis on GDP, population and industrial development with international comparison.
- 4) Analysis of the Site Selection of the Industrial Area: Selection of the three sites for industrial area, two locations in Nacala-Porto and one in Nacala-a-Velha, with characteristics of each site.
- 5) Overall Planning Area and Layout of the Industrial Area: Determining size and accommodating industries for each site in relation with infrastructure development.
- 6) The Space Planning of the Initial Area and Estimated Investment in Construction: Infrastructure planning for each of three sites with zoning plan and cost estimation.
- 7) Setup of the Organizational and Management Organizations of the Industrial Area: Proposed organization for the development area for the construction stage and operation stage.
- 8) Hardware Development and Construction of Industrial Area: Proposed infrastructure for export processing zone, common industrial area, commercial area, common facilities and road and dock.
- 9) Guarantees to the Implementation of the Development and Construction of the Industrial Area and Special Suggestions: Recommendations on how to attract investors in a form of incentives and a concern on environmental issues.

2-8. Nacala Free Trade Zone Development Study, Millenium Challenge Corporation, by TSG, December 2006 A4, 80 pages)

This report has been prepared by The Service Group (TSG), by order of Millennium Challenge Corporation (MCC), and the report consists of 8 chapters as listed below.

- 1) Introduction
- 2) Benchmarking Nacala FTZ.
- 3) Market potential
- 4) Preliminary demand projections
- 5) Legal, regulatory and institutional requirements
- 6) Geographic scope of Free Trade Zone.
- 7) Preliminary development costs
- 8) Analysis and fatal flows

The report proposes three locations for Free Trade Zones; Nacala Port, Quissimajulo and Nacala a Velha, in Chapter 6. The development cost analysis in Chapter 7 present four options, and it concludes the development can be feasible if 70% of the development cost is covered by external source (Mozambique government) and 30% by private investment through PPP arrangement, as indicated below.

Option 1: Full private investment for FTZ and off-site infrastructure

Option 2: Full private investment for FTZ, with off-site infrastructure by external sources.

Option 3: PPP development of FTZ with 50% of FTZ and off-site infrastructure by external sources.

Option 4: PPP development of FTZ with 70% of FTZ and off-site infrastructure by external sources.

The result of the analysis provides 18.5% in IRR¹³ for the option 4 and 7.7% for the option 3, while

¹³ Internal Rate of Return

there is no IRR calculate for the option 1 and 2, since both cases gave negative net cash returns.

2-9. Zona Economica Especial de NACALA, Apresentacao ao Conselho Consultivo do MPD, May 2007 (A4, Power Point slides, 38 pages in Portugese)

This presentation material is used for a consultative conference at MPD on May 30, 2007. It covers general concept of economic free zone and its general contents, and explains geographical advantage of Nacala Special Economic Zone, “ZEEN¹⁴”. It briefly reviews the past studies including investors conference for NDC and Industrial Free Zone Study in 2003.

2-10. The Study on Upgrading of Nampula-Cuamba Road in The Republic of Mozambique, Japan International Cooperation Agency, November 2007 (A4, 77pages (Summary))

This report is a feasibility study report of road improvement of Nampula-Cuamba which is a part of Nacala Corridor, currently unpaved. The report consists of the five parts as listed below.

- 1) The conduct of the survey and implementation plan
- 2) General conditions of the transport sector
- 3) Fiesibility study
- 4) Regional development plan
- 5) Conclusion and recommendations

In the conclusion and recommendations, it is reported the economic internal rate of return being calculated as 18%, if the project implementation is done during 2009 and 2011. It is recommended that regional development along the road and social and environmental consideration to be covered for implementation of the project.

2-11. Economic Corridor Regional Development Project Formation Study, Japan International Cooperation Agency, February, 2008 (A4, 180 pages in Japanese)

This study covers issue of regional and economic development for the area along Nacala Corridor, covering Nampula and Niassa Provinces, in comparison with Beira and Maputo Corridor. The report consists of the following chapters.

- 1) Background
- 2) Outline of the study results
- 3) Brief outline of industry in Mozambique
- 4) The government industrial development plan
- 5) Characteristics of regional economy and industries (Maputo, Beira and Nacala Corridor)
- 6) Current situation for private sector in Mozambique

In Chapter 5, the report covers current situation of industrial development for the area surrounding Maputo Corridor, Beira Corridor and Nacala Corridor, including regional economy, government policy, foreign donors’ activity and potential industries. For Nacala Corridor area, it touched on agriculture, fishery, mining, agro-processing, other manufacturing and tourism as potential industries to be developed.

The Chapter 6 covers private sector investment in Maputo, Beira and Nacala Corridor area, with comparison of distribution system by port and inland transportation. It also covers issue of support needed for further development of private sector.

2-12. Joint Seminar on Industrial, Trade and Investment Promotion – Trilateral

¹⁴ Zonas Economica Especial de Nacala

Cooperation between Japan, Mozambique and Vietnam for Nacala Corridor -, Japan Bank for International Cooperation, March 2008 (A4, 237 pages including attachment, in English and Japanese)

This report of a compilation of the seminars took place in Maputo and in Nacala in February 2008, funded by JBIC, for the purpose of stimulating discussion to develop Nacala Corridor by using development experience in Asia, in particular, Vietnam. The report consists of the following four chapters and appendices.

- 1) Background and objectives
 - 2) A comparative study of two countries, Mozambique and Vietnam
 - 3) Summary of the joint seminars
 - 4) The way foreword
- (ANNEX)
- A) Seminar participants lists
 - B) Press report
 - C) Seminar materials

II STUDY RESULTS

II STUDY RESULTS

1. Current Conditions of the Target Area

1-1. Nature

The Republic of Mozambique is located in the southeastern region of Africa. Mozambique has 799,380 km² area which consists of 786,380 km² land and 13,000 km² water area. Mozambique faces Indian Ocean in the east and has about 2,500km cost line. Mozambique shares its boarder with 6 countries such as Malawi, South Africa and Zimbabwe and has total 4571km boarder line.

Mozambique is composed of coastal lowlands in the east, uplands in centre, high plateaus in northwest and mountains in west. According to JICA (1996),¹⁵ coastal lowlands accounts for 44% of the country and northern plateaus make up 29% and western plateaus and highland more than 1000 meters above sea level have about 27% of the national land. There are 25 major rivers in Mozambique including the Limpopo River and Zambezi River which is the fourth largest river in term of basin area in Africa (JICA, 1996). Cabora Bassa, the largest hydro-electric-power dam in Africa, is located in the basin area of Zambezi River. The climate of Mozambique can be described tropical and subtropical climate and divided into two seasons; rainy season and dry season. From November to April, Mozambique has hot and humid weather and from May to October it has dry days. In the rainy season about 80 per cent of annual rainfall falls.

Mozambique consists of 10 provinces and one city (cidade) which is equivalent status to a province. Nampula Province in which Nacala SEZ is located 81,606 km² surface areas which account for 10.21% of the national land (INE, 2002)¹⁶. Within the Nampula province there are 18 districts and 5 municipalities.

Chart II-1-1 Provinces of Mozambique



Source: mapsofworld.com/mozambique/mozambique-political-map.html

¹⁵ JICA (1996) "Preliminary survey report on Beira port ship course maintenance and improvement plan"

¹⁶ INE (2003) "Anuário Estatístico 2002 Província de Nampula"

The Nacala Special Economic Zone (hereinafter “ZEEN”) is a region composed of the administrative districts of Nacala-Porto District and Nacala-a-Velha District¹⁷ in Nampula Province in northern Mozambique. Nacala-Porto District occupies an area of 370km²¹⁸ while the Nacala-a-Velha District occupies 1,169 km²¹⁹. ZEEN is intended to cover quite large area as to be called as a “zone”, expanding to 1,539 km², which is a combined total dimension of the 2 districts. The climate in the subject region has a rainy season and a dry season, and the average annual precipitation ranges from 800 mm to 1,000 mm. The region is relatively dry.

Chart II-1-2 Administrative map of Nampula Province (Source JICA(2008²⁰))

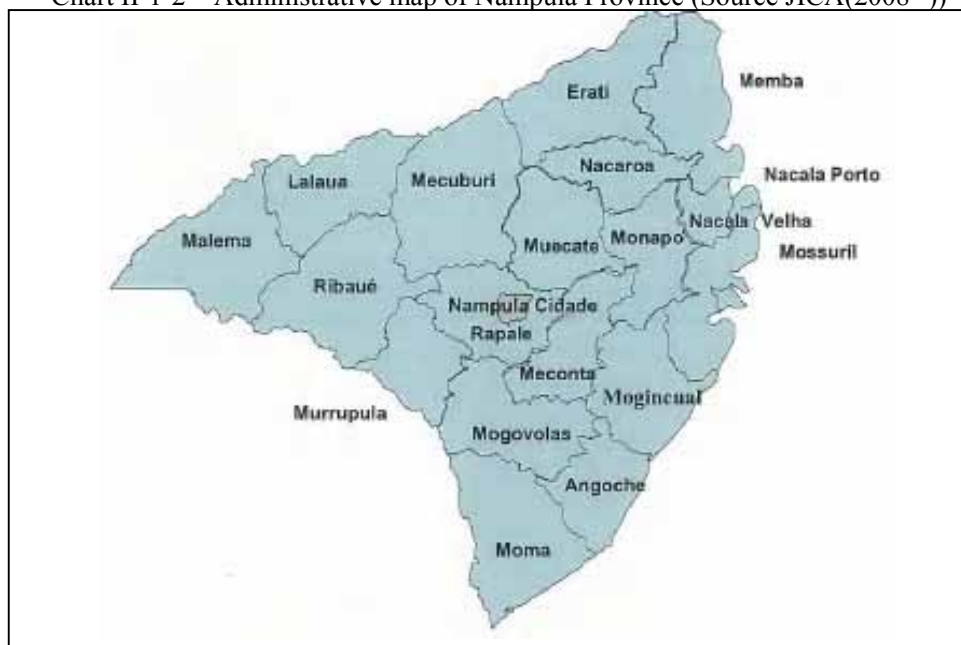


Chart II-1-3: Nacala Bay

One of the key geographical features of the areas is Nacala Bay. Nacala Bay is a semiclosed water area and according to CFM (2002)²¹ three bays (Namelala, Muananculo and Bengo) shape the greater interior Nacala Bay with a length of 13km and a maximum width of 4.5km. CFM (2002) also states that the access route to the port is known as Femão Veloso with 500 meters wide at a depth of 20 meters. Compared with other ports in Mozambique such as Maputo and Beira, one of the distinctive features of Nacala port is that Nacala Port is a natural deep-water and not an estuary port which requires regular dredging in



¹⁷ Source: Decreto n.o. 76/2007

¹⁸ Source: Plano de Estrutura da Cidade de Nacala-Porto (2006)

¹⁹ Source: Perfil do Distrito de Nacala provincia de Nampula (2005)

²⁰ Source: The project formulation study on the promotion of industrial development in major corridor areas in Mozambique

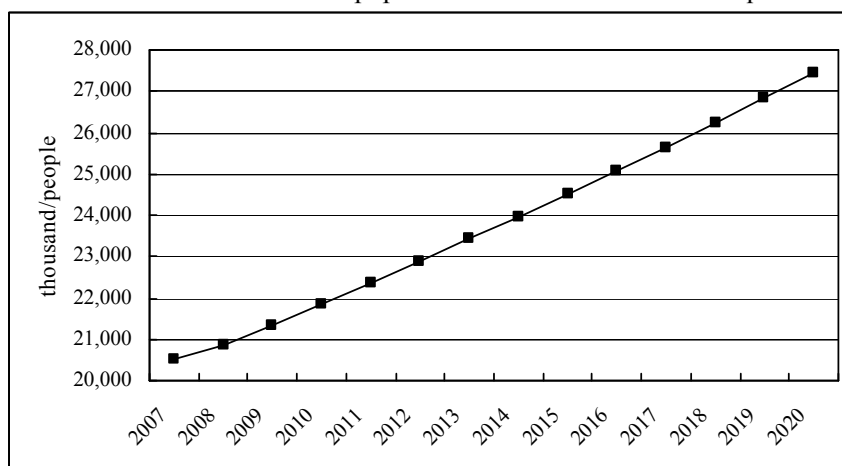
²¹ Source: Moçambique Nacala 2002 Monografia

order to keep enough depth for vessels.

1-2. Population and Educational Level

Based on the census in 2007 Mozambique has a population of 20,530,714 with a population density of 25.3 habitant per square kilometer and according to the estimation made by Mozambican national statistics institution (INE) the population of Mozambique will reach 27,439,000 by the year 2020²².

Chart II-1-4: Estimated population until 2020 in Mozambique



Source: <http://www.ine.gov.mz/populacao/projeccoes/projeccoesanuais>

In 2006, the number of population between 15 and 64 years old is about 10.7 million which equivalent to 54% of the total population. From this data it can be said that Mozambique has abundant people in working age. In relation to the population in Nampula Province, the census 2007 indicates that there are 4,076,642 habitants in the province and Nampula Province is the second most densely populated province in the Mozambique with a density of 50.0 habitants per square kilometer.

In terms of education, UNICEF (2008) indicates that net primary school enrolment rate in Mozambique remains 76% (both sex) and the percentage of pupils reaching grade 5 is 39.8%. Additionally, youth literacy rate is 52.9%. In relation to the disparity within the Mozambique, as PARPA II states, in general, public services are much more available in the South than in other parts of the country, and this difference is shown by several indicators such as literacy. In fact, net primary schooling rate in Nampula province was 42.7% and literacy rate was 30.1% in 2000 which suggests the existence of regional disparity in educational opportunities within the country.

Population and education level in Nacala SEZ

According to the national census taken in 2007, the population of the subject areas included in the ZEEN was 208,000 people in Nacala-Porto and 89,000 in the Nacala-a-Velha District, for a combined 297,000 in the two districts. 45% of the population in the Nacala-a-Velha District is aged 15 and younger and the adult literacy rate is 19%. On the other hand, with respect to Nacala-Porto District, there is no detailed data, but there are 36 elementary and middle schools and 6 high schools in the area, and the adult literacy rate is considered to be significantly higher than that of Nacala-a-Velha District. There are currently no universities in either district. There are 6 universities in Nampula Province and technical schools, including a Catholic college, expected to be sources of human resources for the ZEEN. However the courses taught at the universities tend to be largely in social science such as pedagogy and jurisprudence. In an interview with the Nampula provincial government, the awareness of the need for fostering industrial human resources, such as engineers,

²² source: INE <http://www.ine.gov.mz/populacao/indicadores/pidsp0020>

technicians and managers, was expressed.

Chart II-1-5 : Basic Education in Mozambique

Data 2000-2006	Figure
Primary school enrolment ratio (net)	
Male	81%
Female	74%
Primary school attendance ratio (net)	
Male	63%
Female	57%
Percentage of primary school entrants reaching grade 5	
Male	62%
Female	84%
Secondary school enrolment ratio (net)	
Male	8%
Female	6%
Secondary school attendance ratio (net)	
Male	8%
Female	7%
Youth (15-24 years) literacy rate	
Male	60% ^{x23}
Female	37% ^x

Source: UNICEF (2008) *The State of The World's Children 2008*

1-3. Infrastructure

Urbanization is progressing in the Nacala-Porto District, around the natural harbor of Nacala Port, National route 8, and a railroad, which provide a link to the port. Basic infrastructure is in place, with paved main roads in the city center. Running water and electricity are also in supply. Furthermore, in the Nacala-Porto District there is an airport currently under military control.

In the Nacala-a-Velha District, another subject area included in ZEEN, the main roads are not paved and water supply is dependent on underground water. Basic infrastructure is not yet in place. The only dam for water supply (Nacala Dam) is located in Nacala-a-Velha District, but that water is being supplied to the Nacala-Porto District.

1) Water Supply

According to the Nacala Municipality, the population with water supply in the Nacala region (both Nacala-Porto and Nacala-a-Velha District) is about 60,000 in the dry season, which only covers approximately one fifth of the total population of this area. The Nacala Dam in the Nacala-a-Velha District supplies water to part of Nacala City. The reservoir of the dam is the primary water source of water supply for the city of Nacala. The dam is located on the Muccula River, 35 km from the Nacala City.

The following schematic shows the existing water supply system in the Nacala City. The areas where water is being supplied through the public pipelines is merely 4.4 km² around the city center Maiaia²⁴. For the rest of the city and for the Nacala-a-Velha District the source of water supply is heavily depending on the groundwater, which may cause environmental negative impacts in the near future.

²³ Notes: x Data refer to years or periods other than those specified in the column heading, differ from the standard definition or refer to only part of a country.

²⁴ Source: Nacala Porto City Structure Plan, July 2006

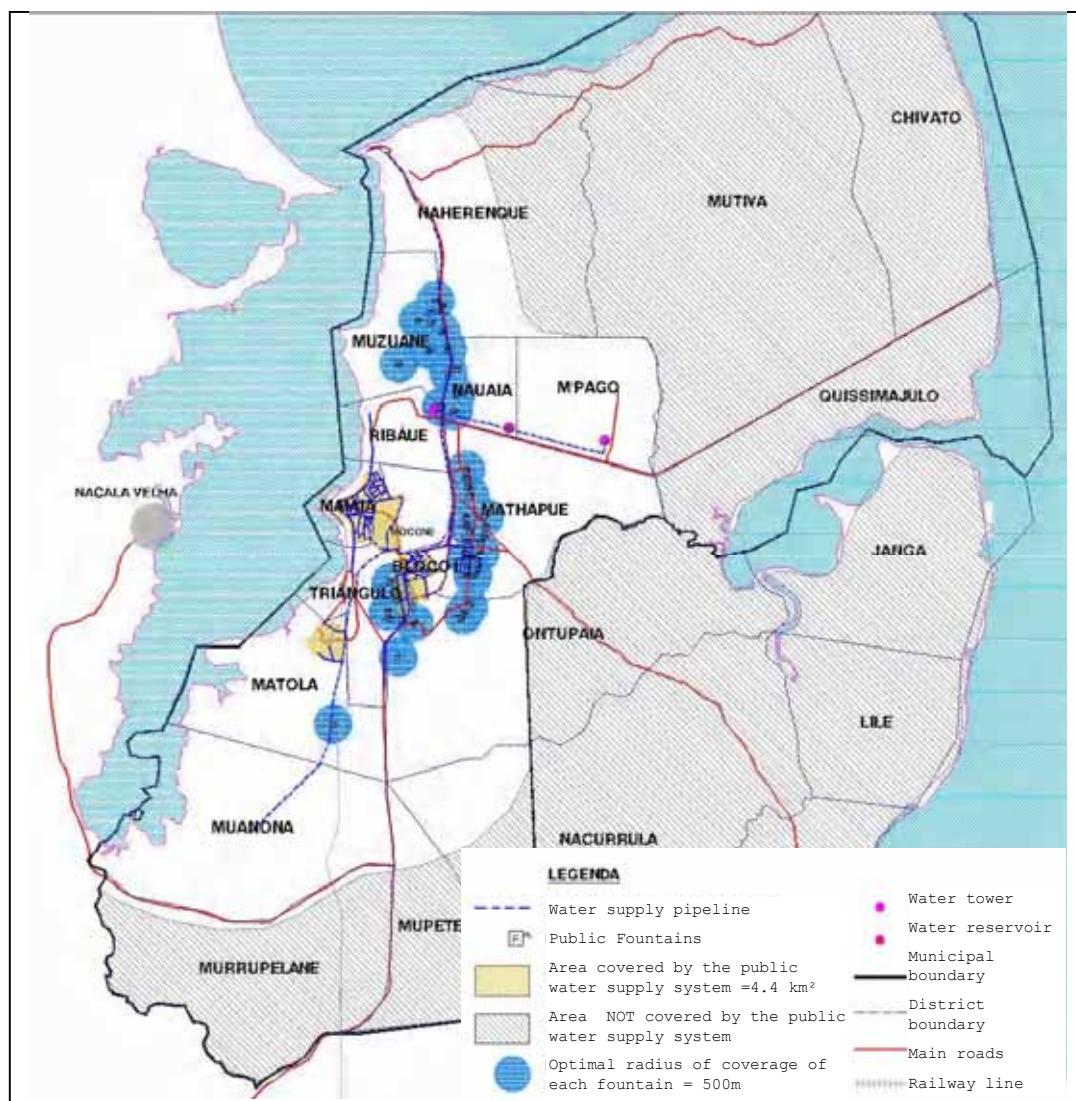


Chart II-1-6 Water Supply System in Nacala
Source: Nacala Porto City Structure Plan

The governmental agency in charge of water supply and sanitation is the Ministry of Public Works and Housing. For the large cities like Maputo, Beira, Quelimane, Pemba and Nampula, the water supply service is delivered and managed by a state-owned asset-holding company called the Water Supply Investment Fund (FIPAG), which was piloted under the World Bank-funded National Water Development II Project. In the smaller cities and rural area, the management and maintenance of water supply is in charge of each municipal administration. For the area of Nacala City, Nacala Municipality is undertaking water supply service delivery.

The MCC master plan report indicates that water in Nacala is about 50% more expensive than in Mauritius, Kenya, India, and Malaysia, and is fully 3 times the price in Guangzhou, China. Water is still substantially higher than in most Sub-Saharan countries—which will make it difficult to attract firms in sectors that heavily consume industrial water.

2) Electricity

A transmission line runs from Cahora Bassa Hydro Power Plant in Tete Province to Nacala, going around the south part of Malawi. Although the 220 kV transmission lines have stretched from Cahora Bassa Plant via city near Quelimane to Nampula, the rest of the transmission line between Nampula and Nacala is still a 110 kV line. The line was installed by the EdM

(Electricidade de Mocambique) and is currently meeting demand, but the rate of electrification in the Nacala-a-Velha District is 50% or less²⁵.

According to the interview results, the oil refinery project that will move into the Nacala-a-Velha District will have their own power plant inside the project site, in order to supply sufficient energy for operation of the plant. This corroborates that the current service level of electricity supply will not be enough for future industrial locations, being endorsed by the interview results with other private firms in Nacala area, saying that one of the critical problems for operation is the electricity.

The table below shows the EdM tariff table revised in February 2006. The rates can be broken down into three main categories, low voltage (for social, domestic, agriculture and general), low voltage (pre-paid), and large customers (low voltage, medium voltage, and high voltage). It is well known that the electricity tariff is extremely low in Mozambique, compared with the surrounding countries except South Africa²⁶.

Chart II-1-7 Mozambique EdM Electricity tariff table (2006)

Customer	Unit	Value in Meticar	Value in US\$ cents (nominal)
Low Voltage (Social, Domestic, Agriculture & General)			
Social (0<kWh≤100)	/kWh	1,010	3.77
Non-social Fixed Charge	Fixed	70,797	0.26
Domestic (0<kWh≤200)	/kWh	2,198	8.21
Domestic (200<kWh≤500)	/kWh	2,929	10.94
Domestic (500<kWh)	/kWh	3,077	11.49
Agriculture (0<kWh≤200)	/kWh	2,215	8.27
Agriculture (200<kWh≤500)	/kWh	3,164	11.81
Agriculture (500<kWh)	/kWh	3,462	12.93
General (0<kWh≤200)	/kWh	2,462	9.19
General (200<kWh≤500)	/kWh	3,516	13.13
General (500<kWh)	/kWh	3,847	14.37
Low Voltage (Pre-paid)			
Social	/kWh	1,010	3.77
Domestic	/kWh	2,802	10.46
Agriculture	/kWh	3,083	11.51
General	/kWh	3,532	13.19
Large Customers - Low Voltage	/kWh	1,378	5.15
	/kW	105,973	395.72
Large Customers - Medium Voltage	Fixed	207,308	774.12
	/kWh	1,144	4.27
Large Customers - High Voltage	/kW	118,615	442.93
	Fixed	973,079	3,633.64
Large Customers - High Voltage	/kWh	1,020	3.81
	/kW	130,654	487.88
	Fixed	973,079	3,633.64

Source: JICA (2007) Baseline Study on the Electric Power Sector in Southern and Eastern Africa, Final Report

3) Roads and Railroads

The following schematic drawing shows the existing road network and railway tracks in the Nacala -Porto District. From the observation during the field survey, it seems that the roads inside the Nacala City are in good condition, especially the arterial roads including the National Route (EN) No.8. Regarding the railway tracks which stretches from south to north till the inside of the Nacala Port, it is reported by CDN that the spur track along the port facilities is in very poor condition and needs to be urgently improved. It is said that the tracks have received severe damages when the huge cyclone attacked the Nacala area in 1992.

²⁵ Interview with Nacala-a-Velha District

²⁶ At 48 cents per kilowatt-hour, Mozambican prices are about 15% lower than in Tanzania, Malaysia, and even the UAE. Compared to costs in Mauritius and Kenya, Mozambique's electricity is about 33% cheaper. The largest cost differentials are relative to India and China, which are 65% and 48% more expensive than Mozambique, respectively. (Source: TSG (2006) Nacala Free Trade Zone Development Study, Preliminary Report (Revised), Millennium Challenge Corporation.)

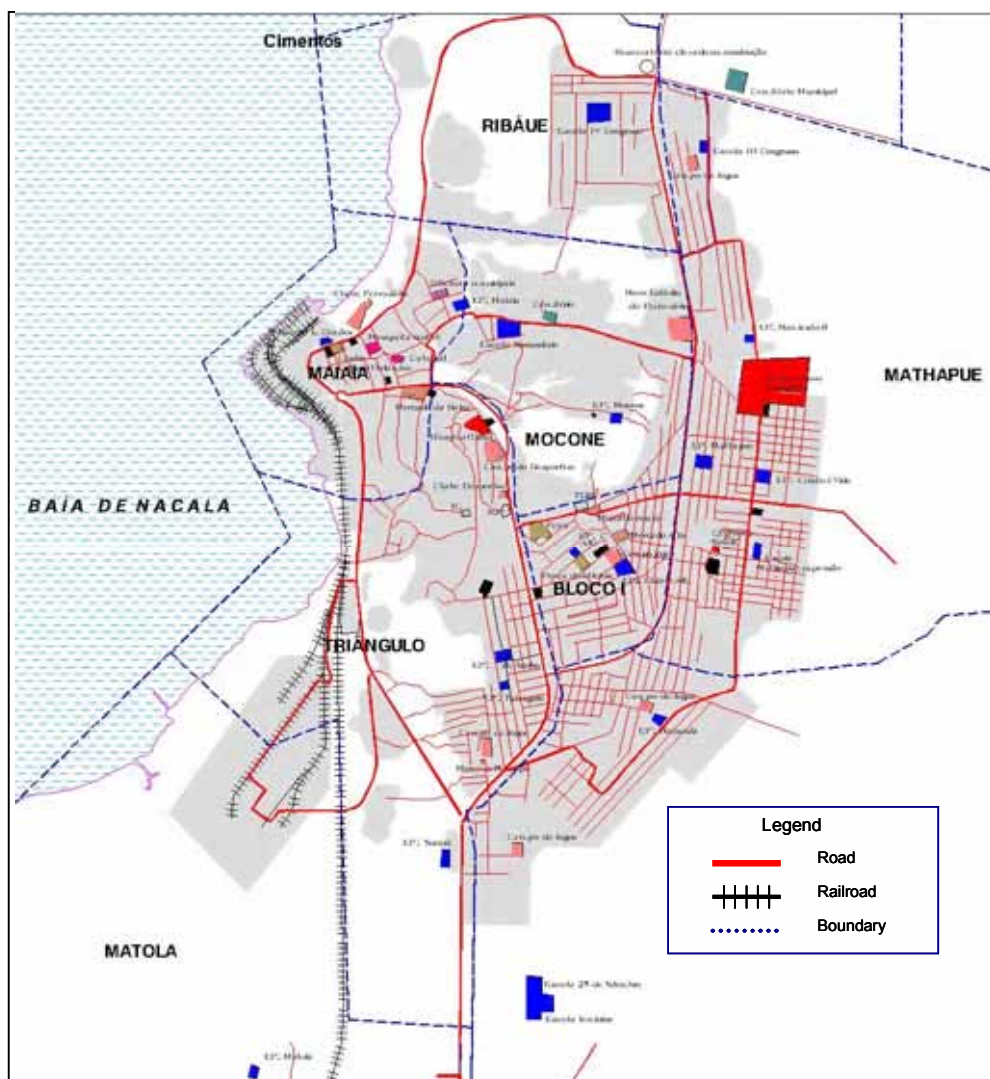


Chart II-1-8 Existing Road Network System in the Nacala Porto District
Source: Nacala Porto City Structure Plan

In the Nacala-a-Velha District, on the other hand, the roads are not paved even for the arterial roads. It can be observed that basic infrastructure is not yet in place in this area.

4) Nacala Port

Nacala Port is an international port situated in Northern Mozambique at Longitude 40° 40' E and 14° 27' S, on the south side of Baía de Bengo, a large and sheltered bay 60m deep and 800m wide at the entrance. It is well known “natural deep-water port” and “natural harbor of refuge”, with no need for dredging and desilting. Because of its natural deep waters and sheltered position Nacala has no restrictions on ship movement or size (with the exception of alongside the quay). However, pilotage is compulsory, ships being boarded 2 nautical miles (3.6km) with 237 degree from the Nacala lighthouse, unless strong winds are blowing in which case pilots then board within the bay²⁷.

²⁷ Source: CDN



Chart II-1-9 Nacala Port - Overview
Source: Prepared from Google Earth

The current traffic in Nacala Port is increasing whereas that in Maputo and Beira is below their 1975 levels. In terms of total cargo handling volume, there is a significant growth in Nacala Port, reaching almost 1.0 million tons in 2007, as shown in the following figures. (But Maputo Port handles close to 7.0 million tons and Beira Port does 2.5 million tons at the same year.)

Regarding the container, the traffic has been growing steadily as shown in the following figures. Nacala Port is currently operating at full capacity of 45,000 TEUs per year, a plan to expand the container berths is being examined in order to increase handling capacity to 70,000 TEU²⁸. Most of the traffic is for international imports and exports. Currently only about 14% of the containers are transit cargo, another 11% are coastal shipments, which include trade with South Africa. Because of the small volumes exported, only about 17% of the containers are 40 footers²⁹.

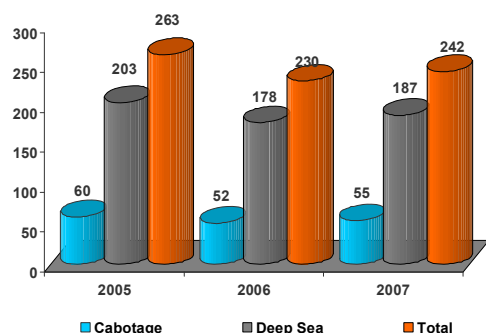


Chart II-1-10: Vessels Called at Nacala Port

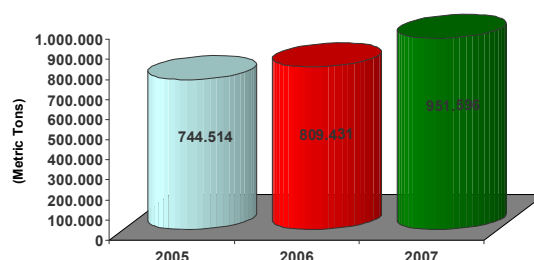


Chart II-1-11: Total Cargo Handled (tons) at Nacala Port

²⁸ Interview at the Nacala Port.

²⁹ Interview results with CDN

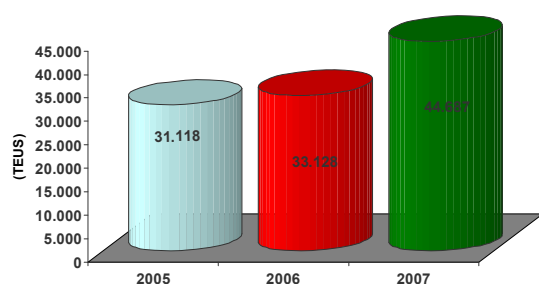


Chart II-1-12 Containers Handled (TEUs) at Nacala Port

Source: CDN

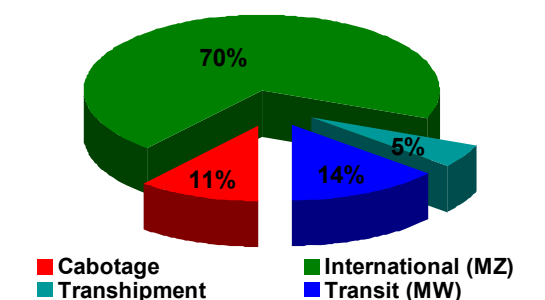


Chart II-1-13 Containers Handled by Type of Movement (2007) at Nacala Port

The port has two wharves, one for general cargo and one for containers. Because the latter has a deeper draft, 14 meters, it is also used for larger bulk vessels. The quay length in the container terminal is 372 meters. The container terminal does not have a ship-to-shore gantry or any high capacity container handling equipment.

The port reported vessel productivities of 8 to 10 TEU per container vessel hour. This is above the pre-concession rates, which were as low as 3 TEU per hour for container vessels but below what would be expected in good port operations³⁰. For containers, the problem appears to be the lack of suitable equipment and an inefficient operating plan. The lack of equipment is most evident in the deterioration in performance when there are two vessels alongside. Given these, the low productivity results in long vessel turnaround time. (These average about 3 days for containers and 4 days for general cargo vessels.

Chart II-1-14 General Information of Nacala Port

Container Terminal	General Cargo Terminal
Quay Length: 372 meters Maximum Draft: 14 meters Handling Equipment: <ul style="list-style-type: none"> ➤ One 22 tons Ship-to-shore crane ➤ Three 42 tons Reach stackers ➤ One 32 ton Forklift ➤ Four 42 tons Forklifts ➤ Two 16 tons forklift(for empties) ➤ Two tractors ➤ Four trailers ➤ One 25 tons rail mounted gantry for 20' containers 	Quay Length: 620 meters Maximum Draft: 7 to 9.7 meters Handling Equipment: <ul style="list-style-type: none"> ➤ One 20 ton Shore Crane ➤ Four 5 ton Shore Cranes ➤ One 10 ton Shore Crane ➤ Three 2.5 ton Forklift Truck ➤ One 4 ton Forklift Truck ➤ Bale clamps are available for fitting when necessary ➤ Five Cargo Funnels ➤ Two Vacuators ➤ Bagging Plants available upon request
Number of Ground Slots: 1,990 TEU Maximum Storing Capacity: 6,722 TEU and 24 connection points for reefer containers	Number of Ground Slots: N/A Maximum Storing Capacity: <ul style="list-style-type: none"> ➤ 8 warehouses with total covered storage area of 21.000 square meters (an average of 7,000 tons each) ➤ An open storage area of 80,000 square meters
Maximum Throughput: 45,000 TEU / year	Maximum Throughput: 2,000,000 ton / year

Source: CDN

The Port operation is handled by CDN which also manages and operates the railway. According to the port master plan established by CFM, a coal loading port and a wharf dedicated to oil are to be constructed at the opposite shore of the existing port (Nacala-a-Velha side). It is expected that the construction of a specialized wharf associated with the construction of the

³⁰ Source: TSG (2006) Nacala Free Trade Zone Development Study, Preliminary Report (Revised), Millennium Challenge Corporation.

petroleum refining facility will be initiated as one part of the investment into the refinery (see Nacala Port Master Plan at end of chapter).

5) Airport

There is an airport with a 2,400 meter long runway (45m wide)³¹ in the Nacala-Porto District, adjacent to military base. It was constructed for military use 30 years ago and is still under the control of the military. The current users are occasional light airplanes from Maputo carrying tourists. There seems to be no navigation aid facilities inside.

The airport has a large reserved area of land, making it possible to extend the runway to 4,000 meters. In the future, development of trade, shipping and other related commercial and industry use is possible, but for the time being use by business and tourism charter flights for foreigners is the most probable usage.



Chart II-1-15: Nacala Airport - Overview
Source: Prepared from Google Earth

6) Other infrastructure

According to the Nacala Municipality, there is no waste water treatment plant and/or sewerage system in the area. As to the solid waste management, a landfill site for garbage disposal is located 12 kilometers away from the city center, and it is planned by the central government budget to construct an incinerator in the future.

To consider the environmental protection around the Nacala Bay, it is of urgent and primary importance to start to operate waste water treatment plant and to scheduled garbage collection.

³¹ Interview at a visit to the airport

1-4. Industry

The share of industry within GDP of Mozambique is 27%, as indicated by the table below, however, it consists of large share of non-ferrous metal which is aluminum by MOZAL, almost 70% of the industrial value added. If the calculation is made without non-ferrous metal sub-sector, the share of industrial value added would be only 10%³². As for other sub-sector of industry, food and beverage, crude petroleum and natural gas are observed as the comparatively large sub-sector within industry.

Chart II-1-16: Mozambique: Share of GDP

	2000	2005	2006	2007
Agriculture, value added (% of GDP)	23	27	28	28
Industry, value added (% of GDP)	23	25	26	27
Services, etc., value added (% of GDP)	54	48	46	45
Source: World Development Indicators database, September 2008				

As it has been characterized by MOZAL presence in industrial output, the country has several so-called mega projects based on its mineral and energy resources. These projects will contribute largely to the country's output of industrial and energy production, together with contribution to the balance of payment. However, its impact on employment creation is limited, due to the nature of activities involved and requirement for skilled technical workers which has to be supplied from foreign sources.

Chart II-1-17: Mega Projects in Mozambique

Name	Description
MOZAL Aluminum	Mozal aluminum project is invested by BHP Billiton and Mitsubishi Corporation. The project consists of a smelter using alumina imported from Australia as raw material. The construction started in 1998 and completed in 2000, followed by its expansion completed in 2002. The total investment is about \$2billion.
Pande-Temane Gas	Natural gas from Pande and Temane gas field in Inhambane Province is exported through the 865 km gas pipeline to South Africa. The gas field installations, processing facilities, and gas export pipeline were commissioned in 2004 with \$1billion total investment. Mozambique government has its share in the joint venture for this project.
Moma Titanium	Moma is a coastal area in Nampula Province. The mine is being developed by Anglo-Irish company and the production started in mid 2007. It contains considerable reserve of titanium minerals ilmenite and rutile.
Moatize Coal	The project is located in western Tete Province and is being developed by Brazilian iron ore giant Rio Doce. The project will mine 15 million tons of coal a year, of which 6 million tons are to be exported, while 9 million tons are used for thermal power plant to produce 1,500 MW, by 2010.

Source: "Post-Stabilization Economics in Sub-Saharan Africa, Lessons from Mozambique", IMF

Hence, it is of particularly important to develop more labor using industry, and the government, Ministry of Industry and Trade put its policy to emphasize develop small and medium enterprises (SME) through "Strategy for Development of Micro, Small and Medium Enterprises" as a part of the national industrial policy.

Taking a look at Nampula Province, there seems to be abundant opportunity in agriculture product processing due to its rich agriculture activities with potential to increase value added to the products by introducing processing for export as well as for domestic market. The typical case is

³² "Economic Corridor Regional Industry Promotion Sector Project Formation Study Report", by JICA (2008)

cashew nuts, which used to export in raw cashew for processed in overseas importers, but now increasing number of processed cashew nuts are produced in Nacala area. Likewise, opportunities are widely opened for edible oil from sesame, ground nuts, cotton seeds and other products. The production of cotton is another resource for textile industry which needs careful strategic concern for successful investment.

In the Nacala-Porto District, in addition to physical distribution and warehousing industries relating to exporting and importing through the port, there exist product processing and packaging industries which target the domestic markets of Malawi and Zambia. With respect to physical distribution and warehousing industries, thanks to steady economic growth, the volume of container cargo handling has increased, and its importance is also anticipated to do so in the future. With respect to the products being imported at Port of Nacala, grains that can be grown domestically such as rice and processed goods such as textiles and bicycles are included. Among the product processing and packaging industries located in the Nacala-Porto District, there are cement and flour milling industries, and these are enjoying growth each year. Furthermore, in Nacala and areas near the coast, there is a tourism industry, including hotels and restaurants. Thus, in the Nacala-Porto District, there are service industries, including transportation, warehousing and tourism as well as industries that process and package imported raw materials and semi-finished products to domestic markets and neighboring Malawi. Commercial activities are ongoing in the area.

On the other hand, in the Nacala-a-Velha District agriculture is predominate and small farms are cultivating cashew nuts, cotton, maize, cassava, beans, tropical fruits (bananas, mangos, etc.), sesame and the like. In the coastal areas, there is salt manufacturing and fishing, but the scale is small and most of the fishing catch is for self-consumption. The study team's impression is that in contrast to the Nacala-Porto District, there has been no development in this area.

The main Agriculture³³ activity in the target area is self-sufficient farming. Since the irrigation rate is extremely low, most of the crops are produced dependent on natural precipitation. Cashew nuts, coconuts, and cassava are well cultivated as well as some cotton. In the Nampula Province the agricultural processing industry is very active and there are some 10 locations within the corridor where cashew nuts are being processed. The area's principal activity is semi-processing for exports to India, Vietnam and Europe. There are also two cotton factories, one located in Nampula City and one in Meconta District³⁴.

1-5 Trade and Investment

Among the private sector investment plans in the target areas of ZEEN, the oil refinery plant construction plan for the Nacala-a-Velha District is being paid with particular attention. This project is said to construct new oil refinery and its own crude oil re-loading pier on the small peninsula at the coast opposite to Nacala Port, as a green field project. There is also a plan to construct a petrochemical industrial plants in the future, and construction of related infrastructure such as an access road and railway is being included.

With respect to private investments in Nampula Province, in which the ZEEN subject areas are located, there are 5 plans in excess of US\$1 million for the processing of cashew nuts, peanuts, and sesame oil, and plantation cultivation of bananas for export. In particular, investments planned for sesame oil processing and banana plantations are of large-scale investment, \$90 million and \$50 million respectively. With respect to the banana plantations located in Monapo District, construction of dams, schools and a medical clinic is included. This is a project with significant economic and social impact on the neighboring communities. The peanuts project is to be located in Nacala-Porto District.

³³ Source: JICA (2007), Republic of Mozambique, Economic Corridor Regional Industry Promotion Sector Project Formation Study Report

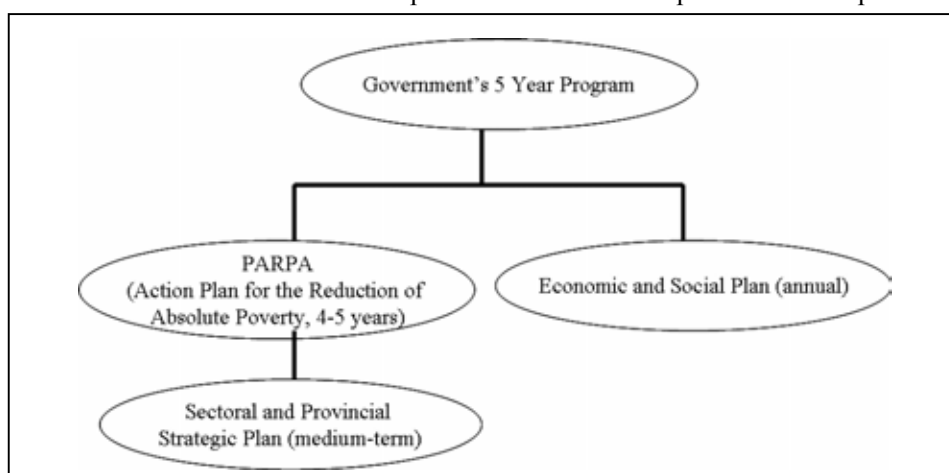
³⁴ Agriculture accounts for 60% of Nampula province GRDP while agricultural product processing industry accounts for 8%. (Source JICA (2007), Republic of Mozambique, Economic Corridor Regional Industry Promotion Sector Project Formation Study Report)

2. Existing Development Plans

2-1. National and Provincial Level Plans

According to the basic documents for development plans by the Mozambique government, there is the Government 5-Year Plan and Plano de Acção para a Redução da Pobreza Absoluta (PARPA: the Mozambique version of PRSP³⁵). The PARPA is positioned as the action plan for the government's 5-year plan. Furthermore, the contents of the development plans from each sector or province are required to take into account of PARPA, and the existing 5-Year Plan.

Chart II-2-1: Relationship between national and provincial level plan



Source: JICA (2008)

(1) PARPA II

PARPA 2006-2009 (PARPA II) was prepared in 2006 as a successor to PARPA I. PARPA II is an action plan to reduce the incidence of poverty from 54% in 2003 to 45% in 2009. PARPA II set out the three priority areas and defined eight cross-cutting topics.

Chart II-2-2: 3 pillars and 8 cross-cutting issues in PARPA II

3 Pillars	8 Cross-Cutting issues
Economic Development	Gender
Governance	HIV/AIDS
Human Capital	Environment
	Food and Nutritional Security
	Science and Technology
	Rural Development
	Natural Disasters
	De-mining

Source: Prepared by Mitsubishi UFJ Research and Consulting based on PARPA

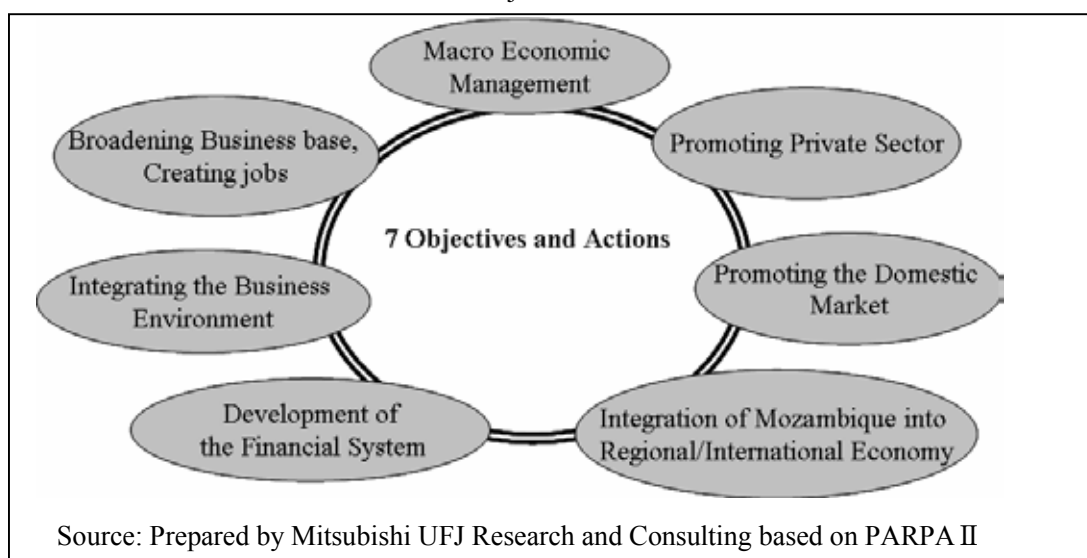
PARPA II identifies economic development, governance improvement and human capital development as priority areas to reduce poverty and also states that addressing eight cross-cutting issues is crucial to the success of the entire growth and poverty reduction strategy. PARPA II differs from the PARPA I in that PARPA II places more emphasis on the poverty reduction through economic development. In fact, PARPA II states that it gives relatively more attention (compared with PARPA I) to local, endogenous economic development reflecting the current state of Mozambique, where 64.3% of the population resides in rural areas and PARPA II differs from the

³⁵ Poverty Reduction Strategy Paper

previous one in that its priorities include greater integration of national economy and an increase in productivity.

Economic development is one of the pillars of PARPA II to achieve its objective. PARPA II points out that sustainable economic development is one of the necessary conditions leading to a poverty reduction. PARPA II identifies 11 principal challenges for economic development such as guarantee of macroeconomic stability and improvement of the business and labor climate in Mozambique and presents the following 7 objectives and actions to address these 11 challenges.

Chart II-2-3: 7 objectives and actions



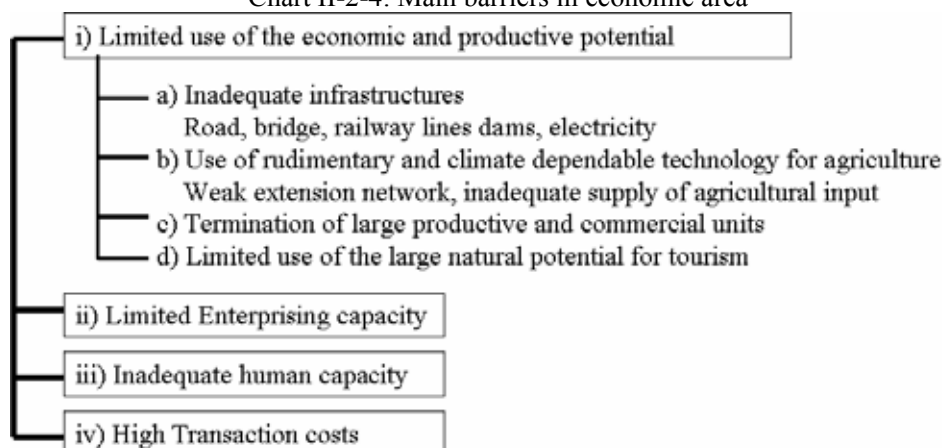
The development of Nacala SEZ will help contribute to achieving the various objectives stated in PARPA II. The development of SEZ is expected to attract national and foreign investments and to improve infrastructures within and surrounding area of the SEZ. The attraction of national and foreign investments in the SEZ will stimulate economic activities in and around the SEZ, which expects to create jobs and to improve income and labor conditions. Improved infrastructure will also benefit various private sector business activities and facilitate integration of Mozambique into regional and international economy. In addition to the above, PARPA II states actions to promote and develop industries along the north-south axis in zone that have growth potential, comparative advantages and economy of scale as priority and to establish tax-free zones, on condition that an evaluation be made, in advance, of the net contribution to the national economy and to tax revenue. Considering its growth potential and economy of scale, it can be said that the development of Nacala SEZ which has potential to be a growth pole in the northern area of Mozambique shares PARPA II's objectives and follows the actions stated in PARPA II.

(2) Nampula Province Development Plan

The "Strategic Plan of Nampula Province 2003 – 2007" states that the main objective of the plan is to reduce poverty through the increase of the value production in a sustainable basis and through the improvement of equity and equality in distribution of wealth. The plan shares the concept of the national development strategy emphasizing poverty reduction through economic growth.

The plan analyzes main obstructions to the province's development and presents development strategies for the province. According to the plan, the main obstacles to the province's development are divided into four areas; economic, social, institutional and environmental areas. The following items are identified as the main barriers in economic area.

Chart II-2-4: Main barriers in economic area



Source: Prepared by Mitsubishi UFJ Research and Consulting based on Strategic Plan of Nampula Province 2003 – 2007

In order to overcome barriers for sustainable economic growth for poverty reduction, the plan emphasizes activities which contribute to achieving the following five strategic axes.

Chart II-2-5: 5 Strategic Axis

Axis	Strategic Axis
1	Economic Growth through the strengthening of the business, private and public sectors and the associative sector
2	Human and Social Capital Development
3	Infrastructure Provision
4	Institutional Development
5	Guarantee the sustainable use of resources

Source: Strategic Plan of Nampula Province 2003 – 2007

The development of SEZ will be expected to address the barrier of limited use of the economic and productive potential by improving infrastructure in the SEZ and its surrounding areas. In addition, Nacala SEZ will be expected to attract national and foreign investments in the area and stimulate business activities in the area, which contributes to achieving economic growth stated as the first axis. Considering the expected impacts of Nacala SEZ, it can be said that the development of the SEZ follows the provincial plan and will make positive contributions to achieving the objectives stated in the provincial plan.

2-2. Existing Development Plan in the Target Areas (ZEEN)

In the target area of ZEEN, plans such as the Nacala Port Development Plan and Nacala Urban Plan Study exist and, in preparing the master plan, it is necessary to conduct an examination based on such existing development plans and studies. The summary of the existing development plans and studies is outlined below.

(1) Nacala Port Development Plan

With respect to the Nacala Port Development, a master plan was prepared by CFM³⁶ and Portuguese consultants in 1974 and revised in 2002 by CFM. Under the plan, the following 13 projects are proposed.

³⁶ CFM was originally a government agency responsible for the operation of the railway and harbors, but currently a privatized company, CDN, owns 49% of its shares.

Chart II-2-6: Proposed projects in Nacala Port Master Plan

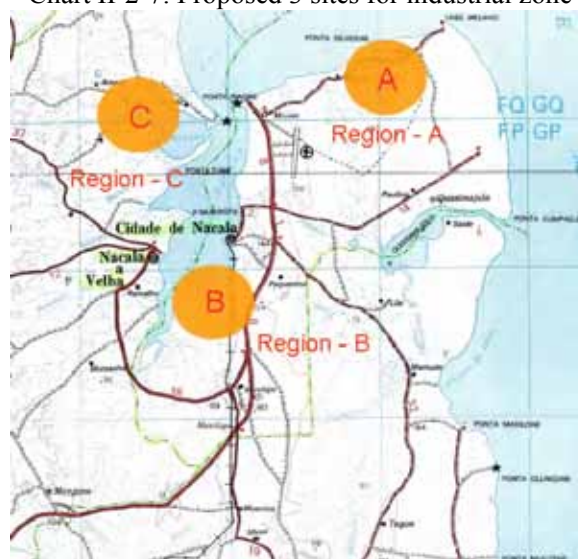
	Projects
1	Railway Network Expansion
2	Commercial Port Expansion
3	Industrial Fishing Port
4	Crude Oil Port & Refineries
5	Nacala-a-Velha Shipyards – Dry Docks
6	Nacala-a-Velha Port Trainig Centre
7	Nacala-a-Velha Cabotage Terminal
8	Nacala-a-Velha Industrial Duty Free Zone
9	Mining Ores Port
10	Nacala Tourism Development
11	Offshore Duty Free Marina
12	Commodities Auctions
13	Food Reserves Commercial Port

At the Eastern side of Nacala Bay where Nacala city locates, container terminals and commercial port expansion were proposed in the master plan. Additionally, a fisheries terminal is planned next to the southern commercial port expansion area. In the southwestern side of Nacala Bay, cabotage terminal, shipyards, and port training centre are proposed. In the Western side of Nacala Bay, oil refinery and mining ores port are projected. The area will be expected to have not only crude oil refinery but also petrochemical and steel industry. Furthermore, industrial duty free zone is proposed behind the oil refinery. The reason to propose industrial duty free zone in Nacala-a-Velha is to create a sub pole for development on the Western side of the Bay. The projected industry duty free zone includes agro-industry and light industry such as textile industry. Since CDN has port operation concession, any development plans relating to the Nacala Port and Nacala Bay area will need to be consulted with CDN and examined with the Port Master Plan. (See the attached chart).

(2) Nacala area development study (conducted by Chinese consultants in 2003)

The purpose of the study is to select an area for industrial area and presents zone planning within the area. The study proposes the following areas as alternatives for industrial zone.

Chart II-2-7: Proposed 3 sites for industrial zone



Source: Cited from “Report of Mozambique Development” (2003)

Besides anchor projects, the city plan proposes land zoning of Nacala port area. The zoning plan can be divided into three; expansion to the North region, Central urban nucleus and expansion into the South region. The followings are proposed zoning and activities in each region.

Chart II-2-11: Proposed Zoning by Nacala City Structure Plan

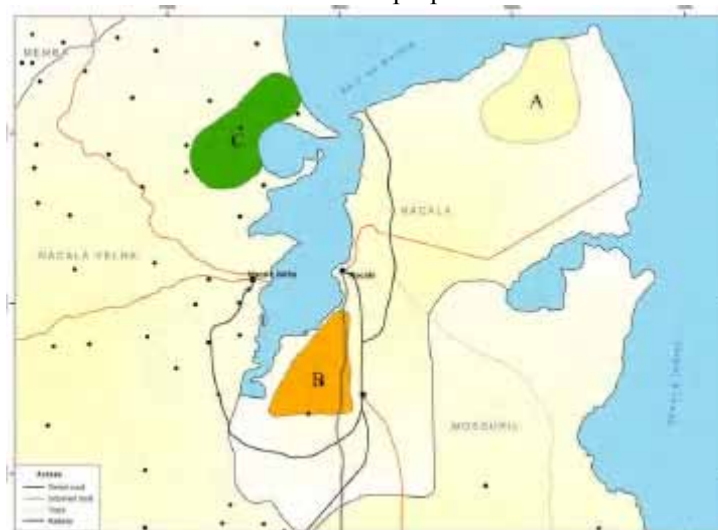
Expansion to the North Region	Central urban nucleus	Expansion to the South Region
High density residential area Update cadastre and improve social service and infrastructures	Central urban nucleus area Urban redefinition	High and medium density residential area Ontupaia, Nacurrula and Mupete area
Low density residential area Develop high-standard housing and tourism establishment	Expansion of current area Industrial expansion and Creating new service centre	Green protection area The west and east slopes adjacent to the residential and industrial areas will be maintain.
Infrastructure Expand water supply system	Coastal areas High-standard housing	
	Rural areas Promotion of agriculture, livestock and forestry	

The plan proposes examination of water supply infrastructure associated with residential land development for the northern area. For the central area, it proposes 4 zones comprised of urban core functions, industry and services provision, and residential and agricultural development. In the southern area, two zones are proposed, residential land development and green area preservation. The land utilization with future development perspective is being proposed. (See the attached chart).

(4) Nacala free trade zone development study (conducted by MCC in 2006)

The study was conducted by a consulting company under the contract with MCC. The purpose of the study is to review and assess the feasibility, market potential, economic impact, geographical scope, development costs, location of the Free Trade Zone (FTZ), and viability of implementing the basis of a Public Private Partnership (PPP). The study points out that Nacala's strong factors for attracting investment are low political risk, cost of upper level staff, low wages for labor, low costs for land and electricity while the report identifies its weak points as the following; the poor quality of operating environment, high cost of water, natural gas and transportation.

Chart II-2-12: location of proposed site for FTZ



Source: MCC (2006) Nacala free trade zone development study

The study assesses the following three sites as candidates for the Nacala FTZ and from a financial, environmental and social point of views the study states that Nacala Port (Region B in the following figure) is the most suitable region among alternatives to establish free trade zone. In relation to the viability of implementing free trade zone on the basis of a PPP, the study concludes that it is financially unlikely for private sector requiring a 15% of IRR on its investment to develop full scale of infrastructures relating to FTZ and the development of all off-site and connecting infrastructures need to be funded by an external resource.

Proposed location for IFZ or FTZ

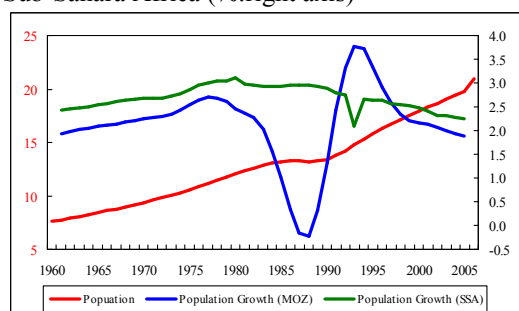
In relation to the location of IFZ or FTZ, all the three studies (A study conducted by Chinese consultant, Nacala City Plan, and A study by MCC) agree to establish IFZ or FTZ in the same area, South of Nacala Port. While there are plans and studies done for the Nacala area development as stated above, IFZ or FTZ development in the Nacala area has not been realized.

2-3. Economic Impact Expected by ZEEN Development

According to the World Bank's World Development Indicators, the number of population in Mozambique was approximately 21 million in 2006. Although the country's rate of population growth was more than that in Sub-Sahara African countries, the rates have been less than those in the other periods. The future population projection indicates that the country's population will be more than 30 million in the 25 years and 37.4 million in 2050.

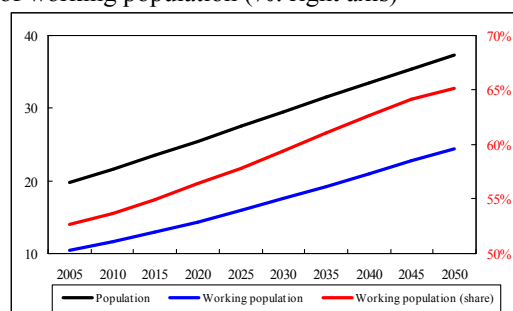
From these points of view, job creation by ZEEN development is reasonable for development of northern part planned by the Government of Mozambique, in the light of referring experience of economic growth in East Asian countries.

Chart II-2-13: Trends of population (million:left axis) and population growth of Mozambique and Sub-Sahara Africa (%:right axis)



(Source) The World Bank. 2008. World Development Indicators: 2008.

Chart II-2-14: Projection of population and working population (million: left axis) and share of working population (%: right axis)



Although Mozambique is HIPC's countries, it already attained "Decision Point" on April, 2000, and "Completion Point" on September, 2001. Likewise, Malawi and Zambia, which are positioned as hinterland, have also already attained "Decision Point" and "Completion Point". According to "Joint World Bank/IMF Debt Sustainability Analysis (DSA): Mozambique" by IDA and IMF, the Mozambique's debt sustainability in 25 years is estimated as sound until 2027, showing that (i) NPV of debt-to-GDP ratio, (ii) NPV of debt-to-exports ratio and (iii) Debt service-to-export ratio are all less than Indicative Thresholds for Debt Distress, especially as a standpoint of poverty reduction³⁷. However, the assumptions applied to this analysis include real GDP growth and export growth at high case scenario, which are largely effective to debt sustainability³⁸. According to this assumption for DSA, GDP per capita in 2032 will be US\$1,132 in

³⁷ International Development Association (IDA) and International Monetary Fund (IMF). May 16, 2007. Joint World Bank/IMF Debt Sustainability Analysis (Mozambique) (Prepared by the staffs of the IDA and IMF Approved by Vikram Nehru and Sudhir Shetty (World Bank) and David Nellor and Anthony Boote (IMF).

³⁸ According to approximately 30 countries' DSA conducted by Mitsubishi UFJ Research and Consulting, approximately 75 to 80 percentages of DSA are empirically dependent on real GDP growth and export growth.

US Dollar in 2000.

Chart II-2-15: Real GDP growth and population growth (%: left axis) and GDP per capita (US Dollar in 2000: right axis) by Mozambique's DSA by IDA and IMF until 2032³⁹

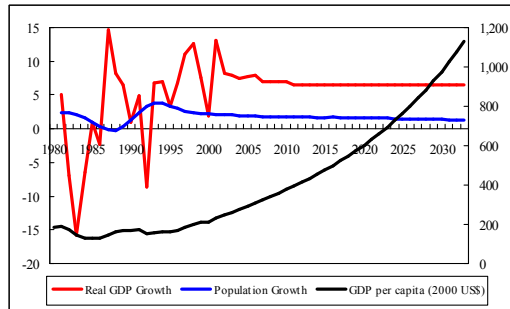
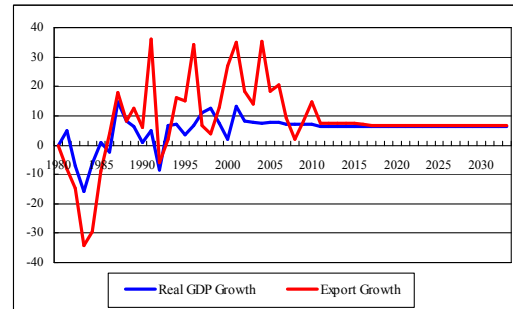


Chart II-2-16: Real GDP Growth (%) and export growth by Mozambique's DSA by IDA and IMF until 2032



(Source) Estimation by Mitsubishi UFJ Research and Consulting based on IDA/IMF assumption.

It is considered to be important that ZEEN development is very important to keep these levels of projections in the northern part of Mozambique, which is relatively poor within the country.

³⁹ Growth rate of population is dependent on the World Development Indicators: 2008 by the World Bank.

3. Institutional Framework for the Special Economic Zone

3-1. Investment Law

The Investment Law⁴⁰ came into effect in 1993 aiming at attracting local and foreign investors. The investment law consists of 5 chapters which are composed of 30 articles.

The law on investment contains wide range of issues such as equality of treatment, various guarantee, investor's right and incentives. In relation to the equality of treatment, the law on investment clearly states that foreign investors, employers and workers will enjoy the same rights, duties and obligations applicable to nationals.

Investment law also set out the guarantees to investment⁴¹. The followings are major guarantees stated in the law.

- Legal protection of property on goods and rights including industrial property rights
- No restriction of borrowing and payment of interest abroad
- Transfer of dividends and royalties abroad
- Arbitration according to ICSID⁴² or ICC⁴³ rules for the resolutions of disputes on investments

Chart II-3-1: The Key issues of Law on Investment

	Title	Key contents
Chapter 1	General Provisions	<ul style="list-style-type: none"> • Definition of FDI, IFZ, SEZ • Equality of treatment • Areas for investments by free private initiative • Areas reserved to public sector initiative
Chapter 2	Guarantees and Fiscal Incentives	<ul style="list-style-type: none"> • Protection of property rights • Remittance of funds abroad • Formalities for remittances abroad • Incentives
Chapter 3	Financing and Exchange Operations	<ul style="list-style-type: none"> • Financing of direct investment • Access to domestic credit • Allocation of foreign exchange • Exchange Operations
Chapter 4	Approval and Registration	<ul style="list-style-type: none"> • Decision making on investment projects • Registration of FDI • Transfer of investor's position or rights • Confirmation and registration of indirect investment
Chapter 5	Other Provisions	<ul style="list-style-type: none"> • Resolution of disputes • Protection of the environment • Previous investment projects • Regularisation of unregistered foreign investments

Source: CPI (Table by Mitsubishi UFJ Research & Consulting)

In addition to the guarantees of ownership and remittance of dividends abroad, the investment law guarantees the concession of tax and customs incentives granted in the Code of Fiscal Benefits for

⁴⁰ Republic of Mozambique Assembly of the Republic Law No. 3/93 of 24th of June

⁴¹ In order to access to the guarantees and fiscal benefits, the minimum value of investment USD 50,000 for foreign direct investment and USD 5,000 for national direct investment is required.

⁴² International Centre for Settlement of Investment Disputes (ICSID)

⁴³ International Chamber of Commerce (ICC)

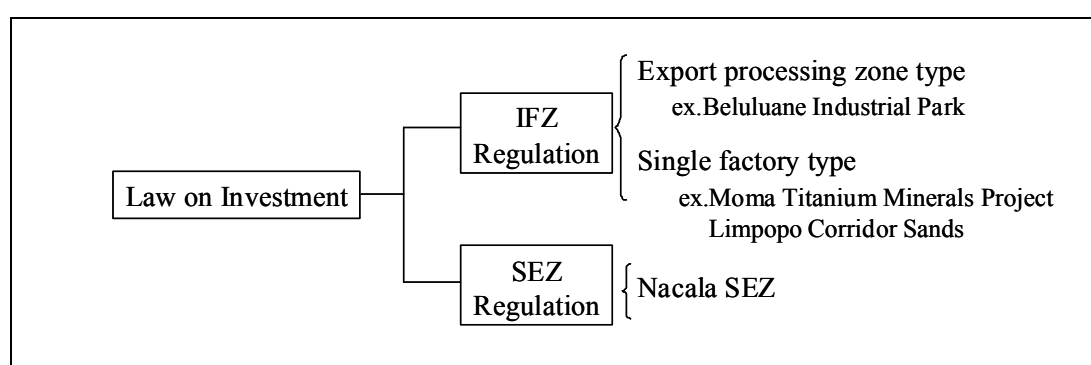
eligible investment.

Fiscal Benefits
Property Transfer tax ⁴⁴
Stamp duty ⁴⁵
Import Duties ⁴⁶
Income tax ⁴⁷

Source: CPI “Legislation on Investment in Mozambique”

Under the Investment Law, the Industrial Free Zone (“IFZ”) and Special Economic Zone (“SEZ”) are defined as regions or entities that are geographically limited and to which particular tariff and tax incentive rules apply for the IFZ and SEZ.

Chart II-3-2: Relationship among Law on Investment, IFZ regulation and SEZ regulation



Source: MURC, Based on the draft of SEZ regulation and IMF (2008)

The difference between the IFZ and SEZ under the Investment Law lies in the fact that IFZ targets export-oriented enterprises, and imported goods and raw materials for production of export goods are 100% exempted from tariffs, and granted with tax holiday for a specified period of time. On the other hand SEZ's targets are not limited only to export enterprises, but also include enterprises that manufacture and undertake commercial activities aimed to the domestic market. Imports of goods and raw materials for purposes other than manufacturing export goods are also given preferential tariff treatment. In addition, in the SEZ arrangements are in place to allow foreigners to reside in the area in an appropriate manner. There have been 3 cases of establishment of IFZs under the 1993 Investment Law. One of these is the establishment of the Beluluane Industrial Free Zone adjoining the Mozal Aluminum Smelter in Maputo. Currently there are enterprises located in the zone that are related to the provision of parts and services to Mozal. On the other hand, there have not yet been any case of an establishment of a special economic zone, and it is currently attempting to promote through the establishment of GAZEDA⁴⁸, the responsible agency, and by revising the Law for more effective function.

⁴⁴ Reduction of 50% on the property transfer tax on acquisition of immovable goods for industry, Agro-industry and Hotels.

⁴⁵ The acts for the incorporation of companies including the alteration of the share capital and the articles of association are exempt from stamp duty during the first 5 years counting from the commencement of the investment.

⁴⁶ Exemption on import duties on equipment class “K”(ex. Drilling equipment, Dump trucks for mineral transport etc) of the Customs Tariff Schedule (the exemption is extensive to VAT).

⁴⁷ Reduction of the rate of income tax differs from industries invested and status of investment. In the case of IFZ status enterprises or developers a 60% reduction in the rate of corporate income tax on the profits will be applied for the period of 10 years.

⁴⁸ Economic Zones Office for Accelerated Development, which was established under the Ministry of Planning and Development in January 2008.

Box: Beluluane Industrial Park

The Beluluane Industrial Park is the only multi-user type of industrial free zone in Mozambique. The industrial park located 16 km outside of Maputo City, is a partnership between the State of Mozambique and the private company, Chiefton Moçambique. The industrial park and free zone is strategically situated on the backbone of the Maputo Corridor, linking Mozambique to South Africa and Swaziland and have 700ha land. The Beluluane industrial park consists of two areas; industrial free zone and non-free zone. Currently there are 15 companies operating in the free zone and 10 companies in non-free zone. Fiscal benefits such as 60% reduction on the Corporate Income Tax on profits for 10 years and custom duty exemption are available for those companies located in the free zone. According to an interview with a company located in the free zone, the concept and application of IFZ regulation are not clear and some of the companies set up factories both inside and outside of the zone and make profits by abusing exemption of import duty. In establishing SEZ, careful design of incentive framework will be required based on lessons learned from IFZ

Source: Beluluane Industrial Park (<http://www.beluzone.co.mz/index.php>) and interview with a company in the Industrial Park.

3-2 Draft of Regulations for the Special Economic Zones

(1) Definition of SEZ

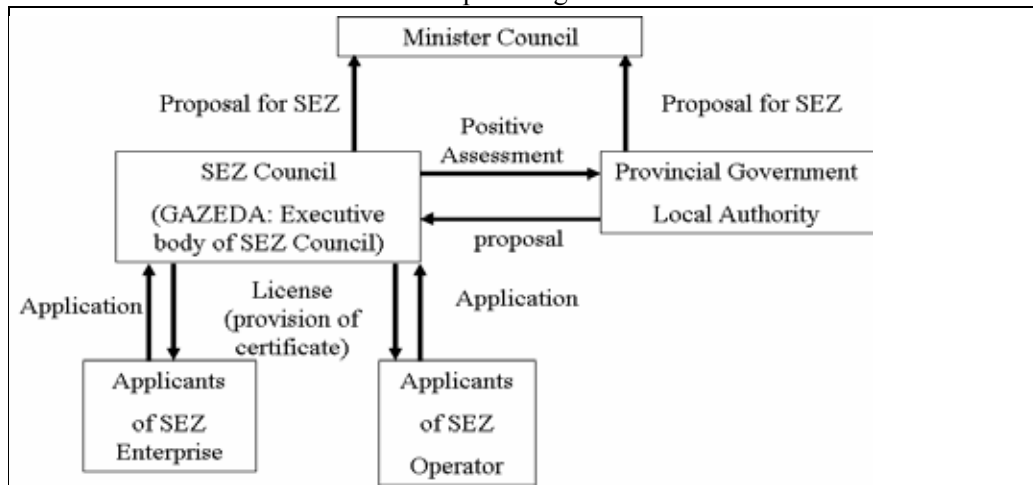
A draft of Regulation of special economic zone was prepared under the leadership of GAZEDA. The draft is based on the awareness of the need to regulate the implementation and operation of SEZ which is defined under the law on investment. The draft of SEZ regulation is comprised of 33 articles and provides a set of regulations to develop and operate SEZ. Within the draft of SEZ regulation, Special Economic Zone is defined as follows.

“Special Economic Zone, shortly called SEZ is an area of economic activity in general, geographically defined and governed by a special customs regime under which, all goods entering into, moving within, being industrially transformed in the SEZ or leaving out of the national territory are totally exempt from any customs duties, taxes and related contributions, enjoying in addition a free exchange control regimen, as well as specifically established and appropriate regimens for operations “off-shore”, tax, labor and migration, destined to ensure fast entry and efficient operation of enterprises and investors who wish to or are already operating or residing there, particularly in their interaction with and fulfillment of their commercial and financial obligations to the outside world, ensuring in return the promotion of regional development and overall generation of economic benefits and in particular, increasing the production capacity, trade volume, tax revenue, jobs creation and revenue in foreign currency for the Republic of Mozambique”

(2) Operation and Management of SEZ

Under the decree No.75/2007, GAZEDA was established as an executive body of the SEZ Council which is responsible for the coordination of all activities related to the creation, development and management of the SEZ. GAZEDA is a fulltime executive body of SEZ Council and works as a “one stop shop” for both SEZ operators and enterprises. The chart below indicates relationship among stakeholders related to SEZ creation, development and management.

Chat II-3-3: Relationship Among Stakeholders for SEZ



Source: Prepared by Mitsubishi UFJ Research and Consulting based on the Draft of SEZ Regulation

(3) Features of the draft of SEZ regulation

Export from and Import to SEZ

One of the key differences between IFZ and SEZ regulation lies in the fact that IFZ is based on a similar concept of export processing zone while SEZ regulation considers not only export of goods and services but also business with domestic market. In fact, unlike the IFZ Law which mandates that 85% of products be exported and limits dealings with the domestic market up to 15% of the previous year's production volume of the enterprise, SEZ regulation allows SEZ enterprises to sale the local market without putting any quota on condition that they pay necessary taxes. In terms of sales of goods and services from local suppliers to SEZ enterprises is classified as export if the sales are to SEZ enterprises for their licensed activities.

SEZ development and operations

Under the article 5 of the SEZ regulation draft, construction of basic infrastructures for development of a SEZ is considered authorized activity. SEZ enterprises and operators are required to obtain land use right and licenses for development and business operation. In relation to the concession of land, the SEZ regulation draft states that enterprises under the SEZ need to obtain land use and development right certificate (DUAT) and GAZEDA is expected to establish specific procedures for the speedy issuance of the DUAT title. The draft of SEZ regulation also set out that SEZ operators carrying out works of construction and/or improvement inside the SEZ may freely sell or lease the buildings. In relation to the operation of SEZ, the conditions on provision of services such as water, electricity and telecommunications will be directly decided by interested parties in coordination with the competent authorities.

Labor issues in SEZ

While IFZ regulation requires IFZ operators and enterprises to hire certain number of Mozambique nationals, under the draft of SEZ regulation there is no article to require employing Mozambican people to SEZ operators and SEZ enterprises. In relation to the foreign works employment, under the SEZ regulation draft the number of foreign workers in each SEZ operator and enterprise is not subject to any quota system though the issue of work permit is under the conditions that the foreign workers must have professional qualifications and expertise which Mozambican does not possess or the required number of such workers is insufficient for the job intended. By imposing certain qualifications, the draft of regulation curbs the potential massive inflow of unskilled foreign labors into SEZ.

Fiscal benefits in SEZ

SEZ operators and enterprises under the SEZ regime are subject to the taxes currently in force in the Mozambique. However, the draft of SEZ regulation states that the tax and customs benefits shall be included in separate legislation and leaves some room for provision of fiscal benefits to SEZ operators and enterprises.

In general, fiscal benefits have been considered that they make SEZ more competitive than other areas and they are used as a tool to attract investment in SEZ. However, recent studies⁴⁹ suggest that fiscal incentives may have little positive effects on SEZ host country's economic development. FIAS (2008) points out ineffectiveness of tax exemption as a first place of incentive to attract investment with the following reasons.

Income shift through transfer price

- Tax holidays allow non-tax-exempt company outside a SEZ to shift its profits to company in the SEZ by manipulating transfer price of inter-company.

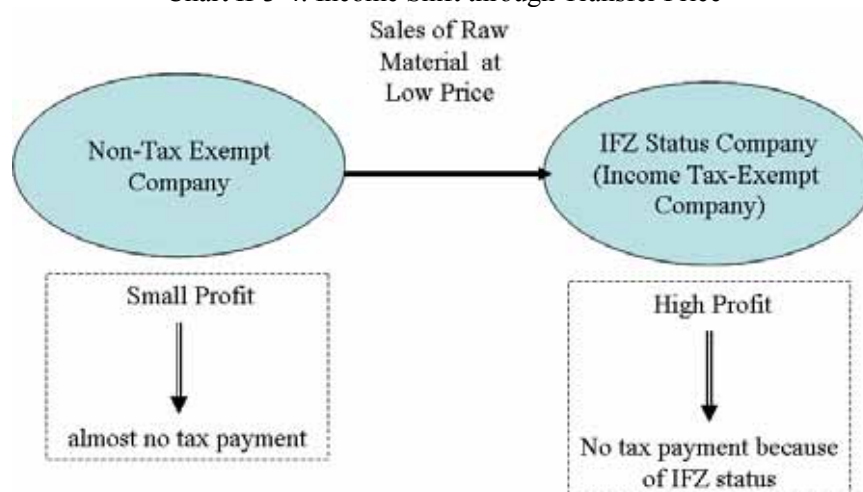
Encourage short-term thinking

- Companies may hesitate in long-term projects generating profits beyond the tax holiday period unless companies are allowed to defer asset depreciation deductions beyond the tax holiday period.

Taxation in home country

- If double taxation treaty exists between investing country and receiving country, tax exemptions in receiving country do not benefit investors from many OECD countries which have global basis taxation policy.

Chart II-3-4: Income Shift through Transfer Price



In fact, IMF (2008) points out the possibility of transfer pricing abuse in mining industry in Mozambique. According to the IMF (2008), mine output can be sold to related processing company which has IFZ status. Since there is no proper restriction on the use of transfer pricing, unlike other countries, the profits of the mining company can be minimal because it can sell its mining output to its group company dedicated to processing with artificially low price while the processing company can enjoy higher profits than that would obtain profits under fair trade by transfer price abuse. Given these possible ineffectiveness of fiscal benefit as a core of incentive framework, the provision of fiscal benefits need to be carefully considered. Other features of the draft of SEZ regulation can be summarized by the list in the next page.

⁴⁹ FIAS(2008) "Special Economic Zones, performance, lessons learned, and implications for zone development", IMF (2008) "Managing Mineral Resource from Curse to Blessing"

Chart II-3-5 Important features of IFZ and SEZ regulation

No.	Area of operation	IFZ regulation	The draft of SEZ regulation
1	Regulatory Authority for IFZ / SEZ	Council of IFZ made up of the relevant Ministries regulating IFZ activities. An Executive for the council (CPI)	SEZ Council (SEZC) which is a fulltime executive body of the Ministers Council is responsible for policy on SEZ. GAZEDA which is an executive body of the SEZC is responsible for the coordination of all activities related to the creation, development and management of SEZ.
2	Designation of IFZE ⁵⁰ / SEZE ⁵¹	IFZ Council recommends. Council of Minister approves. Land is assigned on a 50 year concession renewable. Requirement is for 500 Mozambican jobs to be generated in a multiuser IFZ and 250 Mozambican jobs in a stand-alone user IFZ	Recommendation by SEZ Council and approved by the Ministers Council.
3	Permitted Activities in IFZ / SEZ	Export oriented activities (must export at least 85% of their production) of an industrial nature only (not defined). Excluded or restricted are: alcohol, tobacco related activities; natural resource extraction or processing; activities reserved to the State; any other activities as determined by the IFZ Council.	All economic and social activities are authorized and entitled to enjoy special benefits in SEZ, except for those which are not allowed by law.
4	Development / Operation of IFZ / SEZ	A private or public IFZ Developer/Operator receives a Developer/Operator license.	A private or public SEZ Developer/Operator receives a Developer/Operator license (GAZEDA issue a certificate of SEZ operator which entitles the holder to develop and operate a SEZ. SEZ is managed by licensed (certified) SEZ operator and GAZEDA supervises and monitors the operator)
5	Licensing of an IFZE / SEZE	Executive of IFZ Council processes application within 30 days, otherwise deemed granted.	GAZEDA, acting as a single licensing centre, processes application within 5 working days, otherwise deemed granted.

⁵⁰ IFZE: IFZ Enterprise

⁵¹ SEZE: SEZ Enterprise

No.	Area of operation	IFZ regulation	The draft of SEZ regulation
6	Transfer of an IFZ / SEZ goods	Customs Regulations require 24hr advance notification of goods exiting the IFZ for export. Certificate of Origin required. Import taxes applied on full value of goods entering Mozambique from the IFZ.	Operators and companies under SEZ regime are subject to the taxes currently in force in Mozambique. SEZEs are allowed to sell their products to the local market and they should pay all taxes. Sales of goods and services by local suppliers to the SEZ are classified as export.
7	Provision of infrastructure and services within an IFZ / SEZ	Charges for water, electricity and sewerage are set by the national providers.	Charges for water, electricity and telecommunications will be set by interested parties in coordination with the competent authorities.
8	Fiscal Regime	Indirect taxes on imports to the zone are exempted for licensed developer and enterprises. A 60% reduction in corporate income tax for a period of 10 years.	The tax and customs benefits shall be included in separate legislation
9	Labor	The national Labor Law applies to IFZs. To a maximum of 15% of workforce may be expatriate, and then for only a maximum of 7 tears.	The national Labor Law applies to SEZ. The number of foreign workers in each SEZ operator or Enterprise is not subject to any quota system. However, the foreign workers must have professional qualifications.
10	Dispute Resolution	No specific mention	No specific mention

Source: Based on MCC (2006) "Nacala free trade zone development study", table prepared by MURC

3-3. Comparison with Economic Zone in Other Country

(1) Definitions and types of Special Economic Zone

Under the expanding globalization, there are numbers of special economic zones (SEZs) with a variety of institutional framework around the world. FIAS (2008)⁵² states that there are more than 3,000 SEZs over 135 countries and SEZs generate 68 million of employments and 500 billion US dollars of trade-related value. While SEZs take several forms and there is no universal definition of “special economic zone” UNESCAP(2005)⁵³ states that in general, SEZs tend to have some common features such as above average business infrastructure, more flexible business regulations, an offshore location, focus on export, and attractive incentive packages. In addition, FIAS (2008) listed the following 4 points as basic concept of SEZ.

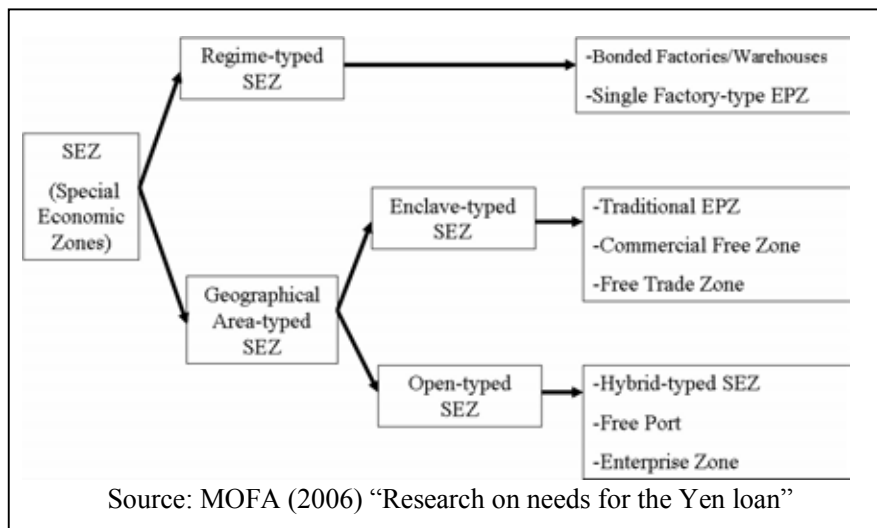
Some common features of Special Economic Zone
Geographically delimited area
Single management / administration
Eligibility for benefits based on physical location within the zone
Duty-free benefits and streamlined custom procedure

Source: FIAS (2008)

Based on the common features above mentioned, SEZ can be defined as an area which is geographically separate from other national territory, has above-average business infrastructure, and offers flexible business regulations and attractive incentive packages such as streamlined custom procedure and tax benefit.

SEZs take various forms from single factory focusing on export processing and industrial park to hybrid EPZ and Freeport which has port, residential and commercial areas. FIAS (2008) classifies SEZs into six groups; Free trade zone, Traditional EPZ, Hybrid EPZ, Freeport, Enterprise Zone and Single factory EPZ. MOFA 2006 also categorizes SEZ into the following figure.

Chart II-3-6: Types of Zones



In Mozambique, there are two types of Industrial Free Zone (IFZ). Beluluane Industrial Park which accommodates various companies within the area is an export processing zone type of special zone. The other one is regime type of IFZ which provides industrial free zone status with single project. Currently there are three projects, MOMA, Mozal and CICOMO, working under the industrial free zone status in Mozambique.

⁵² FIAS(2008) “Special Economic Zones, performance, lessons learned, and implications for zone development”

⁵³ UNESCAP(2005) “Free Trade Zone and Port Hinterland Development”

Nacala SEZ can be categorized as Freeport type of SEZ because of its geographical features, area size and eligible activities and markets. In particular, Nacala SEZ differs from other IFZs in that Nacala SEZ focuses on not only export activities but also integration into domestic market.

(2) Major trends in SEZ development and features of SEZ in Sub-Sahara Africa

Since the late 1950s, SEZ has been implemented as a means to stimulate economic development all over the world. FIAS (2008) cites the following four points as rationales for implementation of SEZ development.

Chart II-3-7: Rationales for SEZ Development

•Export promotion effect
•Job creation effect
•Pilot project as policies and measures for economic development
•Attraction of foreign capital

Source: FIAS(2008) “Special Economic Zones, performance, lessons learned, and implications for zone development”

Major trends in SEZ development

There are certain trends in SEZ development. Firstly, the concept of SEZ has been changed. Traditionally, SEZ was developed for export expansion in enclave isolated areas from national economy. However, with the globalization of economy and trade liberalization, SEZ is viewed as a mechanism to encourage two-way trade and integration of the SEZ into the domestic economy is increasingly emphasized (FIAS, 2008).

Secondly, policies for SEZ development have been changed. Traditionally, SEZ regulations specify export processing and manufacturing of goods as permitted activities in SEZ. However, currently many SEZ regulations around the world allow companies in SEZ to dedicate various types of activities including manufacturing, processing, retail sales, storage, logistics and housing services (FIAS, 2008). In addition, policies for SEZs recently implemented tend to provide equal treatment of national and foreign investors and allow various legal forms of investment such as joint venture and 100% ownership of foreign investor (FIAS 2008).

Increased public and private partnership in SEZ development, management and promotion is another recent trend. Traditionally, SEZ was developed under the public initiative in many countries whereas recent policies encourage private sector participation in SEZ development through incentives provision. In fact, there are SEZs developed under public-private partnership that public sector is responsible for establishment of plan and regulations and private sector takes responsibility of development and promotion of SEZ to attract investment ⁵⁴(FIAS, 2008).

Trends in SEZ development in Sub-Sahara Africa

One of the trends in SEZ development in Sub-Sahara Africa is that SEZ development tends to have forms either export processing zone or single factory model (FIAS, 2008). Other feature of Sub-Saharan SEZ is that government institutions tend to take responsibilities of zone development and management and the dominant industries tend to be textile and food processing targeting Europe and North American market under provision of AGOA framework. In terms of origin of investment, traditionally large size of direct investment came from EU countries, but the amount of investment has been increased from South Africa and East Asian countries in recent years.

(3) Economic Zones in Vietnam

With the application of the cooperation among Japan, Mozambique and Vietnam, this section introduces CHAN MAY-LANG CO Economic Zone (CLEZ) and Dung Quat Economic Zone

⁵⁴ According to (FIAS 2008) there are SEZs developed under public-private partnership in Philippine and Costa Rica.

(DQEZ) in Vietnam analyzing these cases and intends to learn their lessons from their economic zone development.

Outline of Special Economic Zone regime in Vietnam

In Vietnam, there exist three types of special economic zone. The following chart presents both types and definitions of SEZ in Vietnam⁵⁵.

Chart II-3-8: Types and Definitions of Special Economic Zones in Vietnam

Type of Zones	Definitions
Industrial Park(IP)	A park which specializes in the manufacture of industrial products and the provision of services for industrial manufacture, which has defined geographical boundaries and is established in accordance with regulations of the Government.
Export Processing Zone(EPZ)	An industrial park which specializes in the manufacture of export products and the provision of services for export products and export activities, which has defined geographical boundaries and is established in accordance with regulations of the Government.
Economic Zone(EZ)	A zone which has an economic area separated from the investment and business environment, with geographical boundaries and especially favorable conditions for investors, and established in accordance with regulations of the Government.

Source: Ministry of Planning and Investment “Vietnam’s IPs, EPZs and EZs: A guide for investment in Vietnam’s IPs, EPZs and EZs”

Industrial park (IP) is equivalent to so-called industrial park in other countries and Export Processing Zone (EPZ) is a form of IP focusing on export activity. Economic Zone (EZ) differs from IP and EPZ in terms of its size and activities conducted in the zone. EZ is a zone which has more than 10,000ha land and accommodates wider range of activities and functions such as commercial and entertainment facility and housing services than IP and EPZ do. The total production of the three SEZ achieves USD22.4 billion which contributes USD 10 billion to national budget and creates more than a million jobs⁵⁶.

CHAN MAY-LANG CO Economic Zone and Dung Quat Economic Zone

Chan May-Lang Co Economic Zone (CLEZ) is located near Danang port which is a gate of East-West Economic Corridor (EWEC) which has the length of 1,450Km connecting Myanmar, The North of Thailand, Laos and Viet Nam. CLEZ is located on the national highway 1A and the Trans-Vietnam Railway, near to Phu Bai and Da Nang airport. CLEZ has a deep seaport which vessels of 30,000 - 50,000 DWT could ship. It’s one of important trade and tourist port of the Central of Vietnam and of EWEC of Mekong Region⁵⁷. CLEZ has similarities to Nacala SEZ in that the area has sea port and locates in a starting point of economic corridor.

Dung Quat Economic Zone (DQEZ) is located in Quang Ngai province, close to



Chart II-3-9: A Map of Vietnam Source: JBIC (2008)

⁵⁵ Source: Vietnam’s IPs, EPZs and EZs: A guide for investment in Vietnam’s IPs, EPZs and EZs

⁵⁶ Source: JBIC(2008) “Report on Joint Seminar on Industrial, Trade and Investment Promotion”

⁵⁷ Source: Chan May-Lang Co Economic Zone

National Highway 1A, the North-South railway and National Highway 24 which leads to the Central Highlands and is one of the five horizontal routes of the trans-Asia road linking countries in the sub-Mekong region. DQEZ has a big deep seaport at Dung Quat Bay which is 90km from the international maritime route. DQEZ also has similarities to Nacala SEZ in that the area has a deep sea port and an oil refinery which is also proposed within the Nacala SEZ.

Outline of CLEZ and DQEZ

The CLEZ consists of five sub-zones including Non-Tariff zone, Industrial zone, Chan May deep seaport, Urban zone and Lang Co Tourist Centre. As of the year 2008, there are 15 domestic projects and 8 foreign projects invested in CLEZ with the total invested capital reached USD535.3 million. 15 projects have been completed procedures to invest with the total capital nearly USD1 billion and the investment projects focus on the following fields: tourist, processing and mechanical industry⁵⁸.

In relation to the incentive scheme, CLEZ offers several fiscal benefits since the area has difficult socio-economic conditions. The major fiscal benefits offered by CLEZ are comprised of reduced corporate income tax, reduced personal income tax and profits transference fees. For example, a company located in CLEZ can enjoy exemption of corporate income tax in the first 4 years from the start of operation and until reaching 15 years, the corporate tax rate of 10% shall be applied. Additionally, imposed personal income tax rate shall be the half (20%) and a company in CLEZ can enjoy preferential treatment of profits transference fees.

CLEZ identifies three features of CLEZ as its comparative advantages. Favorable location of CLEZ for transportation is one of its advantages. Road, sea and air transportations are available for companies in CLEZ since the national highway and EWEC go through CLEZ as well as there are two railway stations and airports near CLEZ. The second comparative advantage is low operation fees for companies. In addition to the various fiscal benefits above mentioned, a data indicates that labor costs in CLEZ is much lower than those in other Asian major places such as Bangkok and Hanoi. The third comparative advantage is abundant labor force. Thua Thien Hue Province where CLEZ locates has 600.000 working age people. In addition, Hue University, together with technical colleges and vocational schools, annually trains about 10,000 students and skilled technical workers to meet requirement for development of the province.

The planning and development of DQEZ started based on the awareness of the urgent need to promote the study to narrow the gaps of development between regions. With the request of government of Vietnam, the Japanese government supported to prepare regional development plan named “The Study on the Integrated Regional Socio-economic Development Master Plan for the Key Areas of Central Viet Nam”. The development of DQEZ is considered one of the six prioritized projects within the master plan and in line with the need to make growth pole for industrial development, the government of Vietnam decided to locate its first oil refinery in Dung Quat EZ.

In relation to the management scheme, Dung Quat Economic Zone Authority (DEZA) was established to administrate the investment and business activities in DQEZ in one-stop shop mechanism. The DEZA is authorized to issue investment certificates, construction permit and work permit for foreigners. The DQEZ is comprised of 4 sub-sections Heavy Industrial Zone (EAST), Light Industrial Zone (WEST), Dungquat Deep Seaport and Van Tuong New City. There are four sub-sections under the heavy industrial zone listed below.

Chart II-3-10: 4 Sub-Sections in Heavy industrial zone in DQEZ

Sub-Sections	Industries located in the Sub-Sections
1	The oil refinery and its supporting infrastructure - 417 ha
2	Petrochemical and chemical industries - 522 ha.
3	Port-adjacent plants - 335 ha: steel mill & roll complex, shipyard, heavy equipment
4	Other plants

Source: Quang Ngai province

⁵⁸ JBIC(2008) “Report on Joint Seminar on Industrial, Trade and Investment Promotion”

Within the heavy industrial zone, the following industries are accommodated.

Chart II-3-11: Major industries in the heavy industrial zone in DQEZ

Industries	Outlines
Oil refinery	6.5 tons/year with total investment of 2.7 billion USD now has been completed and in the commissioning period.
Polypropylene factory	148,500 tons/year with total investment of 200 million USD now under construction
Steel mil	Construction area of 450ha with total investment of 3 billion USD by Eunited (Taiwan)
Machinery factory	Factory to manufacture equipment for heavy industries with total investment of 260 million USD by Doosan (Korea)
Vinashin shipyard	total investment of 300 million USD for building ships of 100,000 – 400,000 DWT

Source: Quang Ngai province

Besides heavy industries, DQEZ has light industrial zone, port and new city. The light industrial zone accommodates textiles, garments, electronics and consumer goods industries in its 1400 ha sub-zone. The Van Tuong New City has 2400ha and provides residential and financial services to the zone as well as the sea-ecological tourism resort. Vietcombank, VIDB (Vietnam Industrial Development Bank), Agribank and bank for low income group of people are available in the zone.

Chart II-3-12: Facilities in Dung Quat Economic Zone

Facility	Capacity
Seaport	19m of water depth
Electricity Supply	125MVA
Roads System	110Km
Telecommunication	8,630 lines + Mobile wave coverage all over the EZ
Solid Waste Treatment Plant	2 places
Breakwater	1,600m (length)
Water-Supply System	15,000 m ³ / Day
Vocational Training Schools	2,000 students / Year
Hospital	100 Beds (300 Bed hospital is under construction)
Residential Houses	3,000 Persons
Financial Institutions	5 Banks (The State Bank of Vietnam, Vietcombank, VIDB, Agribank, Incombank)
TV Station	3 digital television channels
Cultural and Sports Centre	
Environmental monitoring Centre	
Sea-Ecological Tourist Resorts	

Source: Dung Quat Economic Zone

Under the one-stop-shop administration mechanism and the similar fiscal incentives scheme of CLEZ, DQEZ attracted USD8.8 billion investments so far. The successful attraction of foreign investment may partly be contributed by holding workshops for investors in Taiwan and Korea. One of the challenges which DQEZ currently faces is financial constraints of provincial government. With the process of decentralizations, the administration authorities of DQEZ shifted from the central government to Quang Ngai province government. This shift requires the Quang

Ngai province government to manage economic zone within its budget and budget constrains of Quang Ngai province can hinder growth of economic zone. Under such circumstance, there is an opinion that large economic zone and special zones considered to be important for national economic development should be controlled under the budget and responsibility of the central government instead of provincial government control.

Chart II-3-13: Outline of the three zones

	CLEZ	DQEZ	Nacala SEZ
Area size (Ha)	27,108	10,300	153,900
Population in the Zone	41,000	70,000	297,000*
Major industries	Processing, Machinery, Tourism	Oil Refinery, Petro- chemical, Steel	Agriculture, Agro-processing, Distribution
Accumulated investment (Million in USD)	535.3	8,800	N.A

*Note: the number of population in Nacala SEZ indicates the total number of population in the zone and the actual number of workforce is less than the figure in the list.

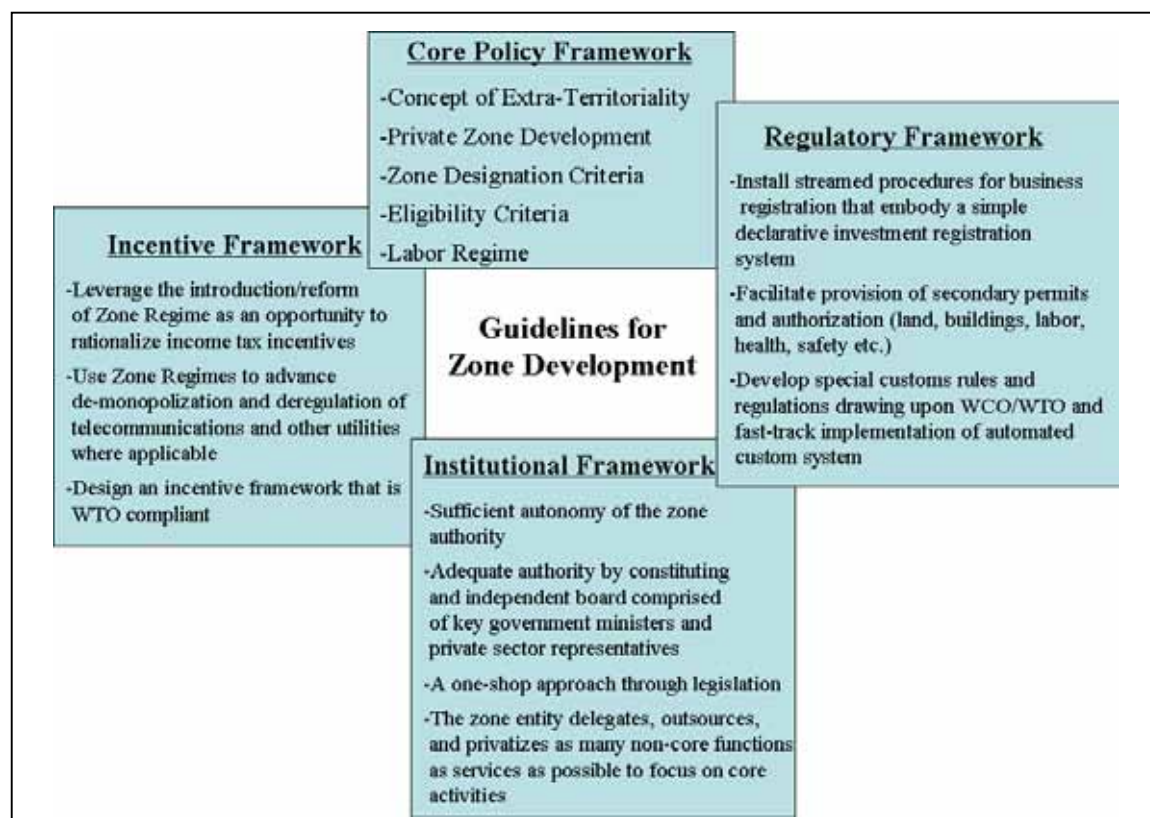
Lessons learned from experiences of economic zone development

Although simple application of the Vietnamese policies and incentive framework in Nacala SEZ can not ensure positive impacts on SEZ development⁵⁹, Vietnamese experiences can be useful as a point of reference in implementing zone development. The Vietnamese and international experiences suggest that the success of zone development, to large extent, depends on policy, and incentive framework and the way in which it is located, developed and managed (FIAS, 2008). The following figure indicates international good practices for zone development in terms of policy, incentive and regulatory framework.

In addition to the policy, and incentive framework and the way in which it is located, developed and managed, the provision of necessary infrastructure is also important for successful build and operation of SEZ. As listed above, DQEZ possesses basic industrial infrastructures as well as various facilities such as financial institutions, hospital, residential houses. Especially, in the construction phase, DQEZ experienced massive inflows of labors and there were demands for social infrastructure such as residence for labors and hospital to provide them with health care and treatments for injuries. This suggests that besides industrial infrastructures, provision of social infrastructures is necessary from the construction phase in order to make the EZ build and work properly.

⁵⁹ Vietnamese cases stated above differ from the case of Nacala SEZ in that the government of Vietnam directly built necessary infrastructures while the government of Mozambique intends to build them through the private sector investments.

Chart II-3-14: Guidelines for Zone Development



Source: Based on FIAS (2008) "Special Economic Zones, performance, lessons learned, and implications for zone development", MURC prepared

4. Development Potential of ZEEN in Relation to the Nacala Corridor and Regional Resources

4-1. Status of Development of the Nacala Corridor Infrastructures

1) Water Supply and Sanitation

Water supply capacity is one of the critical issues for promoting private companies into the industrial parks and it can be a key determinant to define the potential of ZEEN development. Although there is a dam and water reservoir which currently supplies water to only a small area of the Nacala-Porto District, the residents who are not included in the water supply and all residents of the Nacala-a-Velha rely on groundwater. Moreover, it is reported that the annual amount of rainfall in this area ranges from 800 to 1,000 mm⁶⁰. If the service level will not be improved, it must be quite difficult to invite to ZEEN the industries of the type that require high quantities of freshwater. For attracting industries to the area in the future there is an issue in securing water for industrial use.



Chart II-4-1 Nacala Dam and Reservoir
Source: Prepared from Google Earth

It should also be noted that the Nacala Dam is currently facing a lowering capacity (due to cyclone damage, water leakage occurs at certain water level⁶¹), and during the drought period there is a shortage of water. To respond this problem and to tackle with other sanitation issues in this area, the refurbishment of the existing dam, the expansion of water distribution network, and wastewater treatment projects are going to be all implemented by Millennium Challenge Corporation

⁶⁰ Data from Nampula Province (Nacala-a-Velha)

⁶¹ According to MCC Mozambique, it is concluded from the investigation that Nacala Dam is inherently unsafe and needs to be rehabilitated. MCC also made a financial analysis for the alternatives and concludes that the Nacala Dam yields the cheapest water for all sources considered.

(MCC) Mozambique⁶². (For more details, refer to the chart below.) These projects include the enhancement of water reservoir capacity by the construction of additional 2 meter-high embankment over the existing dike, aiming at strengthening the amount of water supply. The detailed design was carried out; however, in line with demand forecasting made in the pre-feasibility study of two years ago, which never incorporate the demand of special economic zones and/or no oil refinery projects. Given these, even the enhanced reservoir of the above cannot meet the future demand which corresponds to the ZEEN development (and the oil refinery plant at the Nacala-a-Velha).

MCC pointed out that the realistic option would be the new construction of a dam on the Sanhute River, situated approximately 9 km south west of Nacala Dam, if securing bigger amount of water to supply for ZEEN and other industrial zones to be built⁶³. Also, Nacala municipality said that the utilization of water resource of the Monapo River could be taken into account⁶⁴.

Chart II-4-2 MCC's Water Supply and Sanitation Project in Northern Mozambique

Project Description	Amount (million US\$)
Improving water supply networks & sanitation of Nampula, Pemba & Quelimane	86.9
Constructing/ rehabilitating water supply and sanitation systems in Nacala, Gurue, and Mocuba, under delegated management	60.0
Technical assistance and capacity building	21.0
Constructing or rehabilitating water supply systems in Montepuez and Monapo	15.0
Repairing and raising the Nacala Dam and reservoir, the main bulk water source for the city	11.7
Installing and rehabilitating approximately 600 rural water supply points in Nampula and Cabo Delgado provinces	9.0
Total	203.6

Source: MCC Mozambique

2) Electricity

Peak power demand in Mozambique is 274 MW whereas power generation capacity is 2,250 MW, which results in having a huge surplus generation capacity. This is mainly because of the existence of a large-scaled Cahora Bassa Hydro Power Plant (2,075 MW) which is located in Tete Province and is owned by HCB (Hidroelectrica de Cahora Bassa)⁶⁵, and the South African state owned power utility Eskom is importing the electricity from HCB. As shown in the following table, Mozambique is a net electricity export country. In addition, as stated in the previous sections, electricity in Mozambique is very cheap mainly because of mega hydroelectric generation plants at Cahora Bassa, Mavuzi, Chicamba, and Corumana. Moreover, considering the proposed projects of the thermal power plant at Moatize and the northern expansion to Cahora Bassa, electricity supply will further be enhanced and it seems that the tariff can be maintained at a low level.

Chart II-4-3 Electricity Balance in Mozambique

	2000	2003	2005
Supply (GWh)			
Hydro	8,748	10,761	13,131
Thermal	12	31	38
Nuclear	-	-	-
Renewable	-	-	-
Imported	1,300	7,363	9,588
Supply Total	10,060	18,155	22,757
Demand (GWh)			
Total power demand	4,049	8,142	9,127
Distribution loss	243	1,388	1,629
Exports	5,768	8,625	12,001
Demand Total	10,060	18,155	22,757

Source: Based on publicly available data from US Department of Energy (DOE)

⁶² Interview results from MCC Mozambique

⁶³ Ibid.

⁶⁴ Interview results from Nacala Municipality

⁶⁵ On the other hand, power generation capacity of the public power corporation EdM (Electricidade de Mocambique) is merely around 200 MW.

On the other, there are two reasons why on-peak demand is extremely as small as 274 MW; i) household electrification rate is just five percent due to disconnection of power transmission lines, and then ii) peak power demand of the nation as a whole continues to be at the low level. Once the power transmission lines will be connected in areas of non-electrification such as in northern Mozambique, it is expected that the electrification rate in the small cities and rural area will drastically increase.

After the outbreak of the civil war, maintenance and repair of power transmission and distribution lines in Mozambique have been neglected and the lines becomes severely being deteriorated at the moment. Rehabilitation and improvement of transmission lines and its related facilities are to be necessary. In addition, the construction of new power transmission line and the establishment of new power grids, especially in northern Mozambique including Nampula Province, seem to be an urgent issue.

The government of Mozambique recognizes the needs for urgent rehabilitation of existing lines and the development needs of new power transmission network. However, the development plan is making little progress by reason of required amount of investment and time-consuming schedule. Although the government prepared a current ambitious strategy of increasing electrification rate up to 15 percent in 2015, the situation as of now does not allow premature conclusions under the constraints that GNI per capita is around US\$ 300.

More seriously, it becomes a bit difficult to supply additional power to the existing grid because of the limitation of transmission capacity, which may turn out to be critical constraint for the development of industrial zones along the Nacala Corridor.

3) Roads

Nacala serves as the eastern last stop of the Nacala Corridor, which connects the growth poles of Nampula, Cuamba, Blantyre (Malawi) and Lilongwe (Malawi) with potential connections through to Zambia and Southern DRC as indicated in the following figure. The corridor has multimodal functions up to Nampula, consisting of both a two-lane road and the single-track standard gauge (1,067 mm) railroad line.

Of the road routes, the pillars of the Nacala Corridor, the segment between Nacala and Nampula has recently been rehabilitated and is a low-cost paved road. It appears to be well maintained⁶⁶ but only extends up to Nampula. The route between Nampula and Cuamba, by contrast, is unpaved and there is a significant difference in road condition onward from Nampula. It is widely recognized that transportation is especially difficult in the rainy season, as the road become muddy and trucks are often left mired and stranded⁶⁷. JICA has already prepared a feasibility study on this route for improvements, and there is the possibility that the road condition will be improved by foreign financial assistance.

Traffic conditions on the trip from Nampula to Nacala were smooth due to light traffic volume. Day-time truck traffic to and from Nacala Port was scattered, and there seems to be quite limited local traffic volume along the highway area.

⁶⁶ During the study team's recent visit, two round trips were made using the route, and the approximately 200 km one-way trip took in 2.5 to 3 hours.

⁶⁷ The road improvement between Nampula and Cuamba is currently planned for the near future with funding from donors, including Japan.

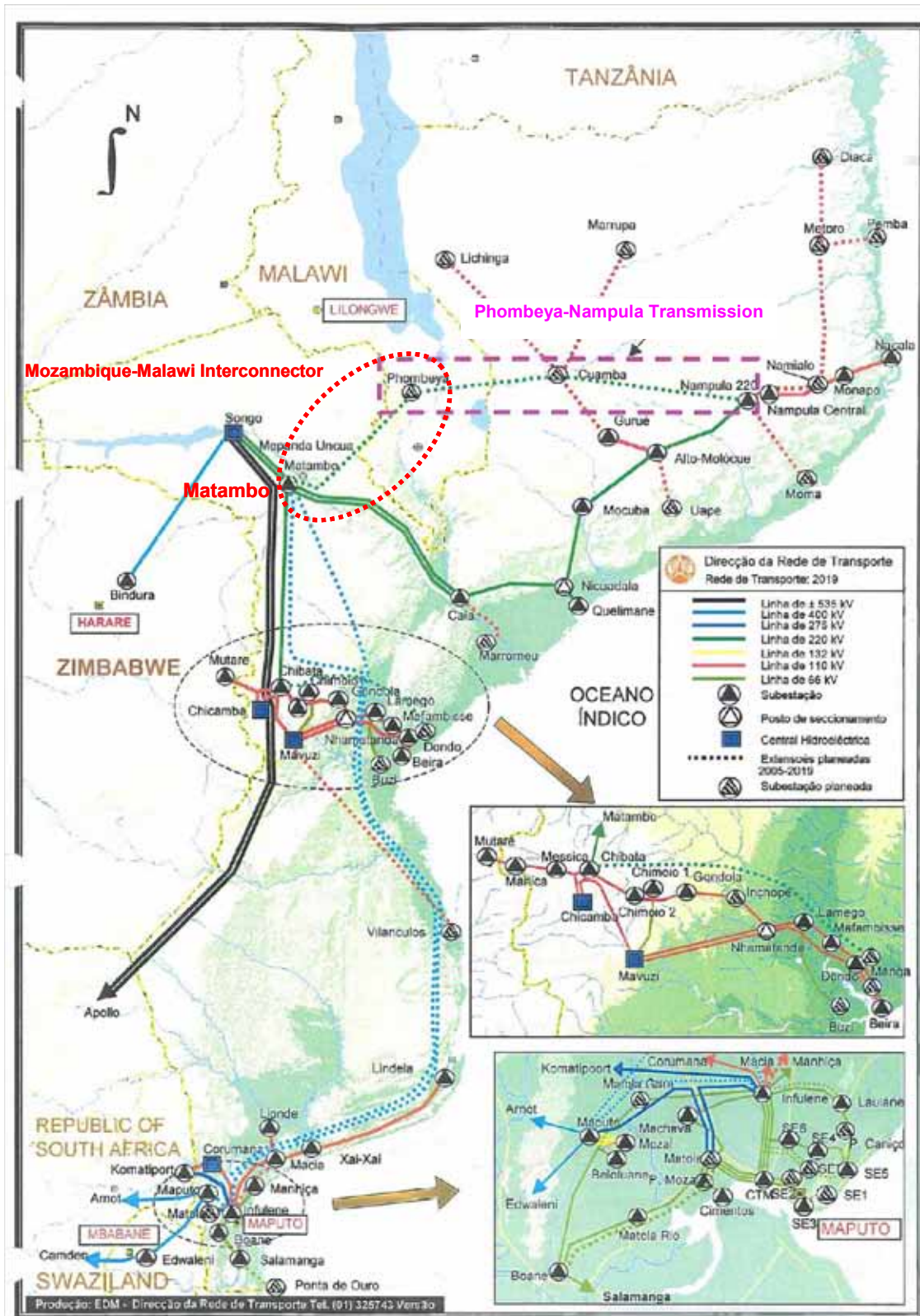


Figure II-4-4 Existing, Committed and Planned Grid in Mozambique by 2019
Source: Ministry of Energy

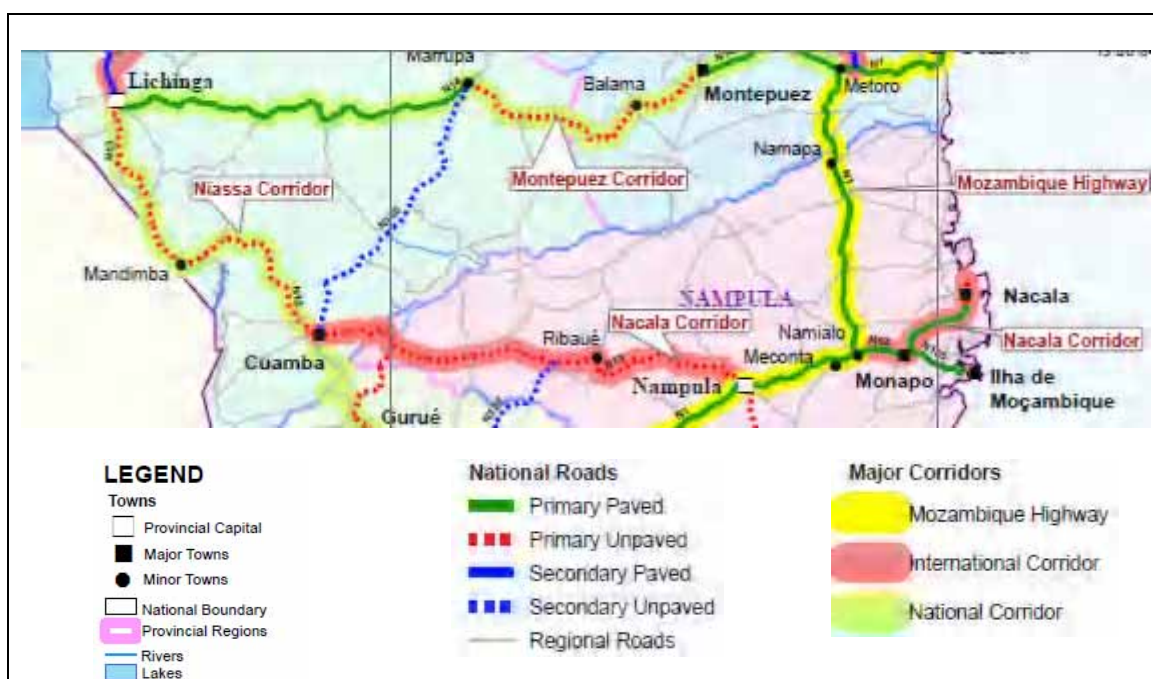


Figure II-4-5 Road Network around the Nacala Corridor

Source: ANE (<http://www.ane.gov.mz/pdf/study/rss/Maps/02%20Major%20Corridors%20A3.pdf>)

Regarding the modal selection along this Corridor (especially the selection of truck or rail mode), it is necessary to recognize both alternative logistics channels and its logistical efficiency in terms of transportation costs and time. The critical function of logistics systems of the Nacala Corridor are focused on the “efficient provision of export and import channels to and from the Nacala Port”. It is reported that the Corridor faces competition from private truck operators that provide reliable and timely services between Malawi and Beira⁶⁸. In addition to this, the effectiveness of distribution system along the corridor depends on the quality of the infrastructure as well as the efficiency of cross border movements.

4) Railroads

The railroad is the other pillar of the Nacala Corridor. The track repairs have been completed between Nacala and Cuamba, thus the rail continues to be in good condition up to Cuamba due to extensive upgrading funded by the French government. Beyond Nampula, the road is in poor condition so that there is effectively only the rail line linking Nampula to Cuamba and across to Malawi. This line extends some 611 km from Nacala to the border crossing at Nayuci, and then connects to the Malawi rail network.

However, due to the shortage of locomotives and rolling stocks, service has been deteriorating. In an interview with a cement company in Nacala⁶⁹, it was found that their shipments of cement to Malawi are dependent upon the railway, but currently the company is only able to ship one third of the volume originally expected. According to the railway operator CDN⁷⁰, they plan to add 6 locomotives⁷¹ to 5 at present, and to upgrade the cargo cars, which drastically improve the situation. Furthermore, track maintenance between Cuamba and Entralagos (Malawi border, 73 km) and between Cuamba and Lichinga (Niassa Province, 262 km) has yet to be performed⁷². (Refer

⁶⁸ Source: Imani-TMT Transport Consultants (Pty) Ltd (2002) Nacala Development Corridor – Technical Paper on Transport Logistic, NDC

⁶⁹ CINAC

⁷⁰ A railway /port company owned 49% by government agencies and 51% by private entities

⁷¹ Interview with CDN (Nampula), 2 locomotives have been imported from India and already discharged at Maputo

⁷² According to the feasibility study, the upgrading costs between Cuamba and Entralagos (73 km) is estimated as 34 million US\$.

[illegible]

4-2 Recent Development in Trade and Investments

- 1) Private investments in Nampula Province during 1990 – 2002 were MT12 billion (\$421 million), of which 33% went into manufacturing, 27% to agriculture, 20% to mining, 11% to transportation and 5% to tourism and construction. Furthermore, it is reported that 30% of those investments were made by foreign investors⁷⁵.
- 2) According to the foreign investment project registered with the Nampula Province, a banana plantation (\$50 million), sesame seed oil production (\$90 million) and peanut processing (\$6 million) are planned to be sited in Nacala and its surrounding area. It is assumed that these projects rely on Nacala Port and the corridor transport facility.
- 3) There is a plan to build a petroleum refinery plant at Nacala-a-Velha District. According to related sources⁷⁶, the planned capacity is 100,000 barrel per day to be located on 1,000 hectares of land⁷⁷. In the future, 2,000 ha land is planned for the petro-chemical industries (fertilizers, PVC, plastics and the like). The raw material, crude oil is said to be imported from middle east and 80% of the products will be destined for export (including exports to inland countries, e.g. Malawi) and 20% for the domestic market. The investors are from foreign and domestic sources and the aggregate investment amount is said to be \$5 billion. As for the related infrastructure, an access road and railway connecting main route and the site will be constructed as a part of investment, and electric power will be generated by its own power plant.
- 4) The banana plantation has secured 10,000 ha of land 30 km west of Nacala and is in its preparatory stages for cultivating South America's "Chiquita" brand bananas for export from Nacala Port to the European markets. The shipments are scheduled to begin in February 2009. The land was originally used to cultivate cotton and being converted for banana plantation. In order to secure water supply, a new dam is being constructed 20 km from the plantation. The plan includes compensation to community residents in the plantation site and the residents forced to relocate their houses due to the dam construction, as well as contribution to the regional community through construction of schools and clinics. The total investment is estimated to be \$50 million, with the investors being an individual foreigner (with Zimbabwe nationality), BIM (a Mozambique bank) and NORFUND (an investment arm of the Norwegian government). In relation to the social contribution operation, German GTZ will undertake infrastructure development.
- 5) Cashew nuts, cotton, sisal, beans and sesame seeds are the main agricultural exports from the region surrounding Nampula Province. According to an exporter in Nacala⁷⁸, increasing amounts of processed products are being exported with the establishment of a raw cashew processing plant⁷⁹.

From the situation above and case examples, several private investment projects are taking place based on the region's resources using infrastructure at Nacala Corridor and Nacala Port and these investments may trigger further private investments into the region.

⁷⁵ Strategic Plan for the Development of Nampula Province 2003 - 2007

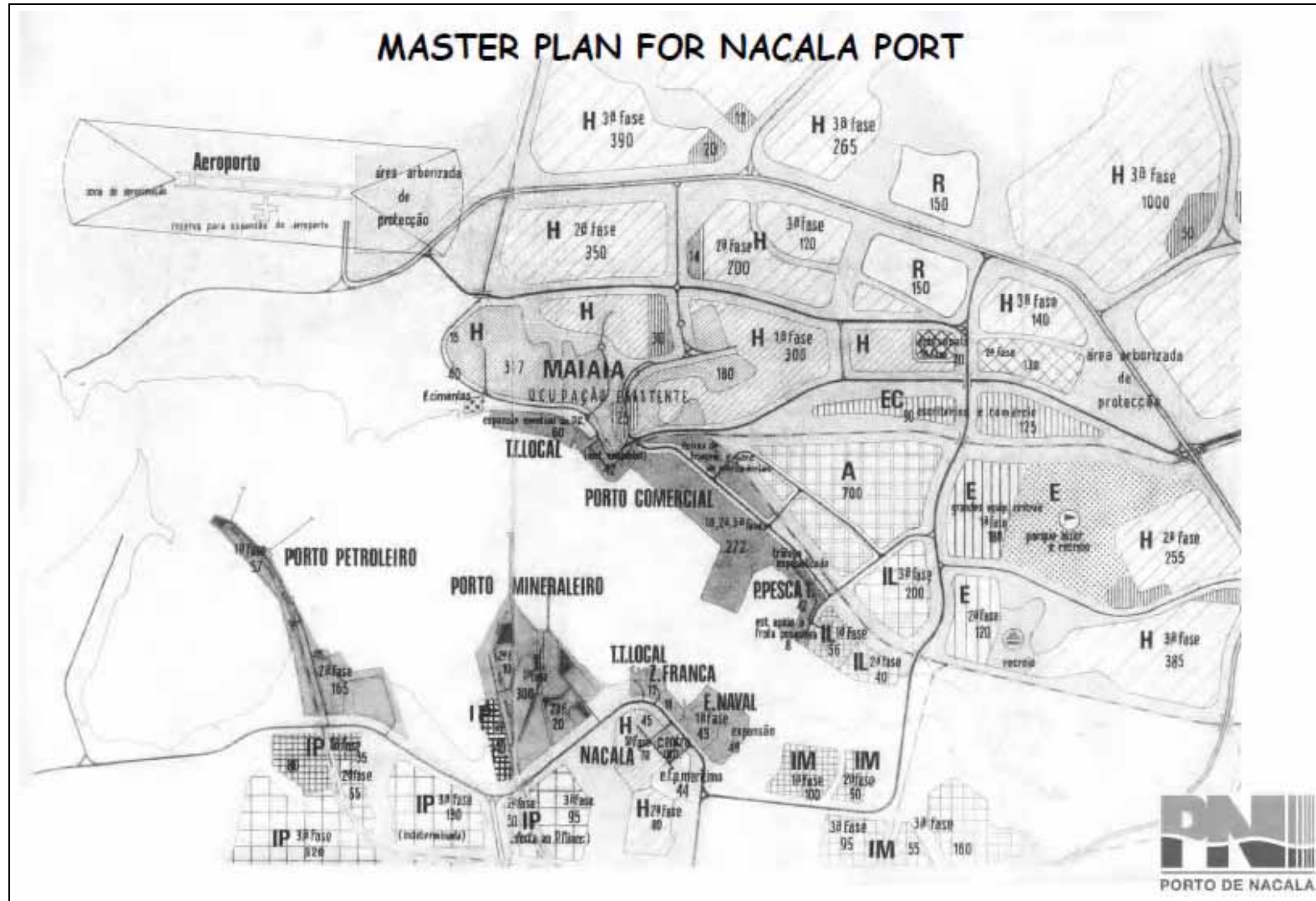
⁷⁶ ALL Co. (Ayr Petro Nacala)

⁷⁷ According to interviews in Nacala-a-Velha, the planned site, the agreed upon land space is 840 ha and no agreement has been reached with respect to other related industrial sites. There are 10 residential houses located on the site and the relocation and compensation negotiations have yet to commence.

⁷⁸ Export Marketing Co.

⁷⁹ In the past, processed products had been exported under an export subsidy program, but with the abolishment of the system, exports of raw cashews became the prime export item. Recently, enterprises, which export processed goods under no subsidy are increasing.

Port of Nacala Master Plan Map (Source: CDN Presentation)



III. RECOMMENDATIONS

III. RECOMMENDATIONS

1. Basic Concept in Planning the Nacala Special Economic Zone Development

(1) Developments Plans Emphasizing the Time Frame

In order to move development of the Nacala Special Economic Zone forward, a concept that phases the project into short term, medium term and long term time segments should be introduced. This is because (i) it has a close relationship with the progress made in ancillary infrastructure development, (ii) the regions benefiting from the development will not be limited only to Mozambique but (through the Nacala Economic Corridor) it is assumed that the project will also benefit Malawi and Zambia and (iii) trade and investments (assuming sea, air and land routes) should be expected. Specifically, short term will be set as over the coming 5 years (to the mid-2010s), medium term as 10 years (to the mid-2020s), and long term as 25 years (to the mid-2030s). In order to ensure achievement of economic and industrial promotion of northern Mozambique intended under the development of the Nacala Special Economic Zone, it will be important to identify issues peculiar to each time segment and to identify approaches to address each such issue.

(2) Development Based Upon Regional Features

Taking into account the current situation in northern Mozambique¹, infrastructure development is of urgent priority, but this alone will not achieve regional development. “Rather, the process of raw material procurement (with agriculture, forestry and fisheries industry in mind) – production – processing (distribution) should be assumed, and a desired state of development that takes into account the entire Nacala Economic Corridor needs to be found”. In order to achieve this, human resources necessary for each phase must be developed, a physical distribution system established and demand for funding met. Considering that, agriculture, forestry and fisheries are the core industries in the current Nacala Districts, more widely for the Nampula Province, and the entire northern Mozambique region, new product development and its strategies intended to promote the agriculture, the forestry and fisheries industries need to be clarified in a form incorporating the time frame noted above.

(3) Phased Economic and Industrial Development

Of the products currently being imported into northern Mozambique, Malawi and Zambia through Nacala Port, some can be manufactured in this district and in those countries. Keeping the development phase in mind, in the Nacala Special Economic Zone, manufacturing of imported goods should be the starting point. Thereafter, it will be necessary to gradually expand the markets in line with progress through the phases. Based on this recognition, a phased perspective is needed in identifying the trade promotion strategies to be adopted in each phase. At the same time, in the investment promotion strategy, perspectives specific to each industrial area will be particularly necessary. For example, during the short term phase (initial phase), such strategies that utilizes locally available resources including natural and human resources can have a comparative advantage.

(4) Environmental Measures Perspective

Since the Nacala Special Economic Zone (prospective) has low precipitation and Nacala Bay with a semi-closed water region, the natural environment is susceptible to impact from development projects. Therefore, in examining the development of the ZEEN, environmental measures has to be carefully considered. In particular, (i) management of regional environment

¹ Based on interview with Ministry of Industry and Trade

through land use planning (zoning), (ii) examination of environmental measures at industrial sites (waste treatment, industrial waste treatment) and setting emission standards, (iii) treatment of living effluent and waste in urban and residential areas² will be needed. On the other hand, in examining tourism promotion of the intact and scenic coastline, an environmental measure for natural resource protection has to be taken into consideration.

(5) Assistance for Local Community

Nacala-a-Velha District is an under developed area with subsistence farming, inadequate infrastructure for transportation, water supply, limited electrification and the literacy rate below 20%. Taking these conditions into account, in developing special economic zones in the future, it will be necessary to build a framework which will enable community residents to be shared with the benefits of development. For example, in a banana plantation development investment in Manapo District, social projects such as securing employment, building schools and clinics are incorporated³. Using these cases as reference, it will be necessary to share development benefits with the local community and aim for a model SEZ development.

BOX – Phased Development of Infrastructure

As discussed in previous chapters, it is recommended that a concept of phased development with a time frame of short term, medium term and long term should be introduced, together with the recognition that infrastructure development in line with economic and industrial development strategy of the Nacala Economic Corridor is of primary importance. It seems that there are no substantial linkages between existing infrastructure provision plan and the ZEEN master plans that have already been proposed.

The following table shows one of the examples of such “linkage” between infrastructure provision and the phased development of the ZEEN, considering the future economic and industrial development strategy for the Northern Mozambique and the Nacala Corridor.

Some ideas for the development scenarios of the ZEEN are as follows:

Short-term (up to Year 2015)

The industries which target the following markets will move to the ZEEN.

1. Nacala Regions (incl. Nacala Porto and Nacala-a- Velha District)
2. Nampula Municipality
3. Northern Mozambique Provinces (Niassa and Tete)

Medium-term (up to Year 2025)

In addition to the above 1 to 3, the industries which target the following markets will move to the ZEEN.

4. Southern Malawi (Blantyre, Limbe, etc.)
5. Central Malawi (Lilongwe, etc.)
6. Zambia
7. Southern Tanzania (along Mtwara Development Corridor)

Long-term (up to Year 2035)

In addition to the above 1 to 6, the industries which target the following markets will move to the ZEEN.

8. Southern DRC

In responding to the above scenarios, phased development of each infrastructure may be considered as shown in the following table.

² Currently urban waste is being discharged into dump sites located in the area

³ There is also a case of Mozar Community Fund in Maputo

Chart III-1-1 Phased Infrastructure Development Strategy

Target Year	Short-Term (up to 2015)	Medium-Term (up to 2025)	Long-Term (up to 2035)
Development Scenarios	<ul style="list-style-type: none"> The industries which target the following markets will move to the ZEEN. <ol style="list-style-type: none"> Nacala Regions (incl. Nacala Porto and Nacala-a- Velha District) Nampula Municipality Northern Mozambique Provinces (Niassa and Tete) The first phase of oil refinery project at Nacala-a- Velha will start to operate. 	<ul style="list-style-type: none"> In addition to the left (from 1. to 3.), the industries which target the following markets will move to the ZEEN. <ol style="list-style-type: none"> Southern Malawi (Blantyre, Limbe, etc.) Central Malawi (Lilongwe, etc.) Zambia Southern Tanzania (incl. Mtwara Corridor) The entire phases of oil refinery project at Nacala-a- Velha will start to operate. 	<ul style="list-style-type: none"> In addition to the lefts (from 1. to 6.), the industries which target the following market will move to the ZEEN <ol style="list-style-type: none"> Southern Democratic Republic of Congo
Water Supply (Industrial)	A water treatment plant (which source is groundwater) will be newly constructed at the areas where industries are to be concentrated within the ZEEN.	A large scale water treatment plant (of which source might be Monapo River or others) will be newly constructed and start to operate	<ul style="list-style-type: none"> Enhancement of the capacity of water treatment, responding to the demand. (Responding to the demand and considering the impacts on surrounding environment,) to introduce seawater desalination plants
Water Supply (Drinking)	Rehabilitation of existing dam, water treatment facilities, etc.(through MCC projects)	The same as the above	The same as the above
Electricity	<ul style="list-style-type: none"> Rehabilitation of power transmission line (110kV) between Cahora Bassa – Nampula – Nacala Start to operate Malawi-Mozambique Interconnector 	<ul style="list-style-type: none"> Upgrade of power transmission line Cahora Bassa – Nampula – Nacala, from 110kV to 220kV Complete electrification of the rural areas in Nampula, Niassa and Tete Province 	<ul style="list-style-type: none"> To complete the Southern Africa Power Pool (to connect Grand-Inga hydro power stations in DRC)
Roads	<ul style="list-style-type: none"> Improvement of secondary roads inside Nacala Porto District Pavement of arterial roads inside Nacala Velha District Construction of access roads to oil refinery plant site (at Nacala Velha District) Pavement of arterial road between Cuamba - Malawian border Pavement of arterial road between Cuamba - Lichinga 	<ul style="list-style-type: none"> Pavement and upgrade of arterial road between Nacala – Pemba – Southern Tanzania (to connect Mtwara Corridor) Upgrade of arterial road between Cuamba - (Malawian border) –Mangochi (Malawi) - Blantyre (Malawi) - Tete Upgrade of arterial road between Mangochi (Malawi) – Lilongwe (Malawi) – Chipata (Zambia) – Lusaka (Zambia) 	<ul style="list-style-type: none"> Upgrade of arterial road between Zambia – DRC
Railroads	<ul style="list-style-type: none"> Improvement of railroad operation between Nacala - Nampula Improvement of railroad operation between Nampula - Cuamba Rehabilitation of rail track between Cuamba - Lichinga Rehabilitation of rail track between Cuamba - Entre Lagos Improvement of operational condition of the rail inside the Nacala Port 	<ul style="list-style-type: none"> Rehabilitation of rail track between Entre Lagos – Liwonde (Malawi) – Lilongwe / Blantyre Construction/rehabilitation of railroad link between Lilongwe - Chipata (Zambia) 	<ul style="list-style-type: none"> Upgrade of rail track between Nacala – Nampula – Cuamba – Blantyre / Lilongwe (Malawi) – Chipata (Zambia) – Lusaka (Zambia) – Southern DRC To connect TAZARA Railway (Kapiri Mposhi - Dar es Salaam) and

Target Year	Short-Term (up to 2015)	Medium-Term (up to 2025)	Long-Term (up to 2035)
Development Scenarios	<ul style="list-style-type: none"> The industries which target the following markets will move to the ZEEN. <ol style="list-style-type: none"> Nacala Regions (incl. Nacala Porto and Nacala-a- Velha District) Nampula Municipality Northern Mozambique Provinces (Niassa and Tete) The first phase of oil refinery project at Nacala-a- Velha will start to operate. 	<ul style="list-style-type: none"> In addition to the left (from 1. to 3.), the industries which target the following markets will move to the ZEEN. <ol style="list-style-type: none"> Southern Malawi (Blantyre, Limbe, etc.) Central Malawi (Lilongwe, etc.) Zambia Southern Tanzania (incl. Mtwara Corridor) The entire phases of oil refinery project at Nacala-a- Velha will start to operate. 	<ul style="list-style-type: none"> In addition to the lefts (from 1. to 6.), the industries which target the following market will move to the ZEEN <ol style="list-style-type: none"> Southern Democratic Republic of Congo
	<ul style="list-style-type: none"> Construction of access railroads to oil refinery plant site 		Benguella Railway (Katanga – Lobito)
Port	<ul style="list-style-type: none"> Expansion of cargo handling capacity (from current 45,000 TEU/year to 70,000 TEU/year) Enhancement of refrigerated container handling capacity Construction of cold chain-related facilities (incl. refrigerated warehouses, etc.) Construction of agro-products storage facilities (such as cereal silos) Improvement of port operation and administrative procedures (introduction of stevedoring facilities like gantry cranes, etc.) Opening scheduled container line services Rehabilitation of bulk cargo terminal 	<ul style="list-style-type: none"> Construction of additional berths Expansion of container cargo handling capacity Increase in scheduled container line services Computerize the terminal operating system 	<ul style="list-style-type: none"> Further construction of additional berths Further expansion of container cargo handling capacity Further increase in scheduled container line services Continue to computerize the terminal operating system
Airport	<ul style="list-style-type: none"> Joint operation for military-civilian use Construction of passenger terminal (quick-built unit) Start to operate scheduled domestic flights and chartered international flights, including air cargo 	<ul style="list-style-type: none"> Full commercial use Start to operate domestic and international passenger terminal Construction/improvement of air navigation system (incl. radar and traffic control facilities) Increase in scheduled domestic flights Opening scheduled international flights Runway extension to around 3,000 meters 	<ul style="list-style-type: none"> Full commercial use Increase in scheduled domestic and international flights Construction of additional runway for crosswind, responding to the demand
Telecommunications	<ul style="list-style-type: none"> Introduction of optic fiber cable to the ZEEN Further dissemination of fixed telephone lines at Nacala and Nampula city area 	<ul style="list-style-type: none"> Introduction of optic fiber cable to the whole region of Nampula Province 	<ul style="list-style-type: none"> The same as on the left
Wastewater Treatment	<ul style="list-style-type: none"> Utilizing landfill disposal site for solid waste Construction of composting facilities inside the ZEEN 	<ul style="list-style-type: none"> Construction of solid waste incinerators (Coverage: The population of Nacala Municipality and its suburb) To consider introducing co-generation and waste-to-energy plant 	<ul style="list-style-type: none"> Expansion of incinerators' capacity
Sewerage	<ul style="list-style-type: none"> Construction of small scale sewerage plant inside the ZEEN 	<ul style="list-style-type: none"> Start to operate large scale sewerage plant (Coverage: The whole population of Nacala Porto and Nacala-a-Velha District) 	<ul style="list-style-type: none"> The same as on the left

2. Plans and Strategies to be Covered by the Master Plan (Recommendations)

2-1. Land Use Zoning Plan

(1) Current State

As described in the previous chapters, plans such as the Nacala Port development plan and Nacala urban development plan has already prepared. For the development of the ZEEN master plan, it is primarily important to conduct an examination based on such existing development plans.

Regarding the port development plan, a kind of master plan was prepared by CFM and Portuguese consultants in 1974. Under the plan, light and heavy industries were to be attracted around a fuel berth consisting of a petroleum refining facility and storage facilities, and a mineral berth that would handle minerals such as coal and other mineral substances. It seems that the port development plan that CDN is currently focusing on has assumed this old master plan. Moreover the proposed construction site of the oil refinery plant coincides with the area designated under this master plan. Given these, developments relating to the Nacala Port will need to be examined based on this master plan.

With regard to the zoning plan, a Chinese team contracted by CPI in 2003 has prepared Nacala city development plan, focusing on the potential of the Nacala Port, railroad and airport. The plan proposes the expansion of functions dividing the area facing the Nacala Bay into 3 districts; north, central and south. For the northern area, the plan proposes examination of water supply infrastructure associated with residential land development. For the central area, it proposes 4 zones comprised of urban core functions, industry and services provision, and residential and agricultural development. In the southern area, two zones are proposed, residential land development and green area preservation. The specific land use patterns, reflecting the above, were recommended accordingly.

In addition to the above, there are also the private sector investment plans in the target areas of ZEEN. Especially, the oil refinery plant construction plan for the Nacala-a-Velha District is being paid with particular attention. Under the plan, a petroleum refining plant and a specialized pier will be constructed on the undeveloped land on the coast opposite Nacala Port. There is also a plan to construct a petrochemical industry facility in the future, and construction of related infrastructure such as an access road and railway is being included in the plan.

Chart III-2-1 Outline of the oil refinery project at Nacala-a-Velha District

Items	Descriptions
Location of the Project Site	The coast opposite Nacala Port, at Nacala-a-Velha District
Land Area (Proposed)	1,000 ha for the oil refinery plant, 2,000 ha for other uses 3,000 ha in total
Land Use Plan (Proposed)	i) Oil refinery plant (1,000 ha) <ul style="list-style-type: none"> ✓ Specialized pier (berth) for the plant ✓ Plant facilities area ✓ Administrative office, etc. ✓ Areas for oil-related industries (Fertilizer, Plastic, PBC, Industrial Gas, etc.) ii) Other uses (2,000 ha) <ul style="list-style-type: none"> ✓ Commercial area ✓ Residential area ✓ Social facilities (Hospitals, Schools, etc.)
Refining Capacity of Oil	100,000 barrel per day (for the first phase)
Official Commencement of the Project	5 th May, 2008
Construction Works	To be started by the first quarter of 2009
Project Completion (tentative)	Between 2014 and 2015 (for the first phase) Not known for the final phase

Source: Prepared from the results of interviews with the private developer of the oil refinery project

To sum up the observed facts and results of interview with related stakeholders, current issues can be summarized as follows:

- There is no authorized land use plan both for Nacala Port District and Nacala-a-Velha District,

- under the circumstances that the initial plan was proposed almost thirty years ago,
- Thus, there is no “official” defined areas for industrial development to guide the private developers, and
- Relating to the above, it seems that severe lack of collaboration and coordination with the oil refinery project can be observed, specifically in terms of overall planning process.

(2) Future Directions

Considering the current state described in the above, there would be urgent need for preparing the official land use plan which elucidate the function of specific areas for the organized development in the Nacala area. The following are the best-practice guidelines for the physical development of zones, according to the IFC⁴:

- ✓ To implement land use planning and zoning efforts in defined areas for industrial and commercial development to guide the actions of private developers,
- ✓ To develop zone designation criteria in the zone law and implementing regulations to ensure that private zones are conveniently located (near population centers and transportation hubs) and minimize offsite infrastructure development expenditures of government, and
- ✓ To establish a land use planning and infrastructure development unit in the government to ensure adequate planning and support of offsite infrastructure provision.

Referring to the current proposed plan shown as follows, the new and/or revised land use plan shall be formulated in line with the above instructions. Guiding the actions of private investors is especially essential on the ground that there have already been several private investments made in this area.

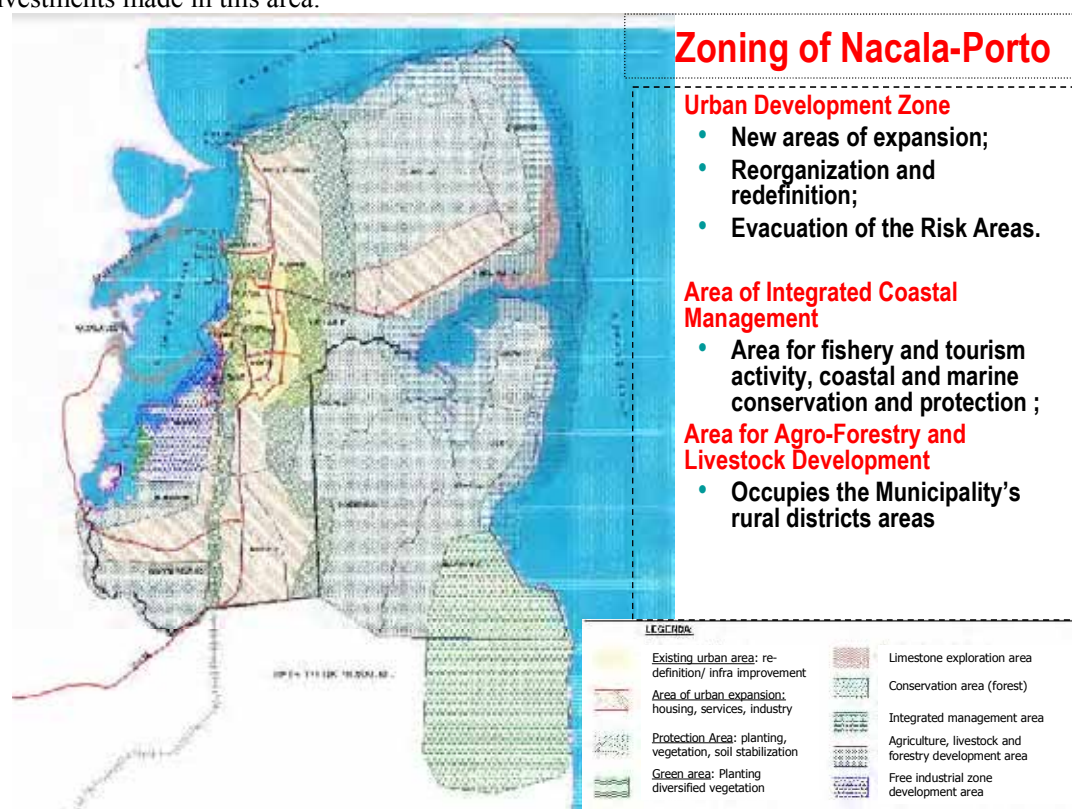


Chart III-2-2 Nacala City Zoning Plan (CPI Study Report)

⁴ Source: IFC-FIAS (2008) Special Economic Zones – Performance, Lessons Learned, and Implications, for Zone development, Washington D.C.

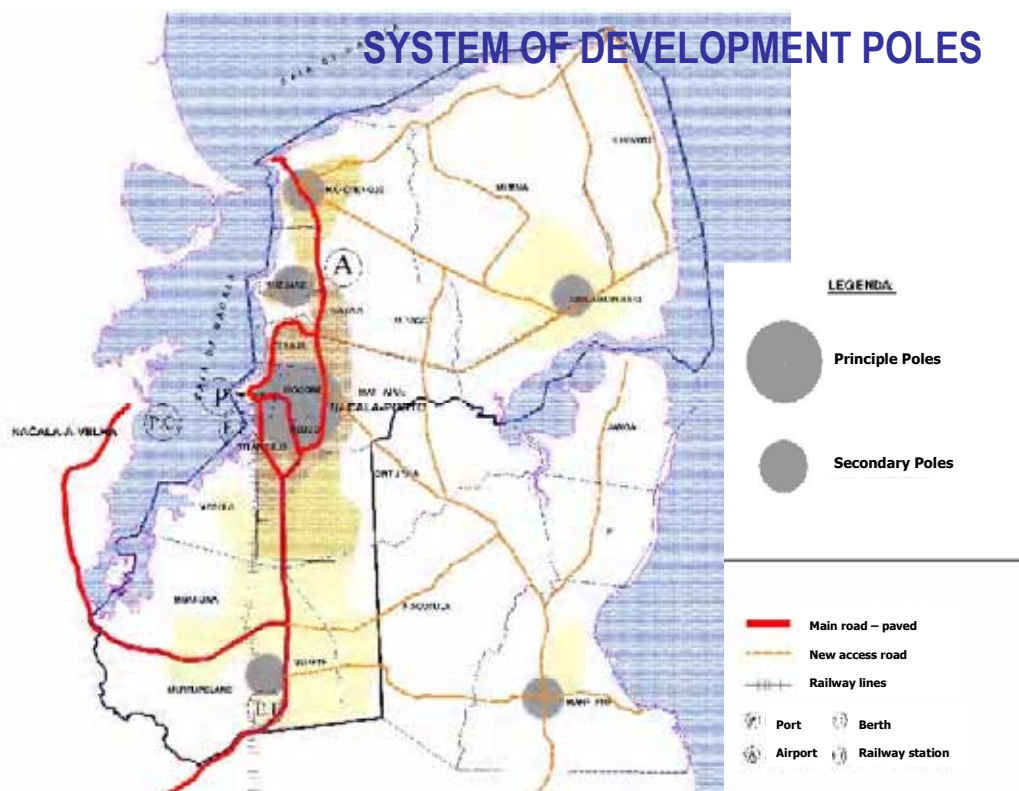


Chart III-2-3 System of Development Poles (CPI Study Report)

Furthermore, effective linkages between i) land use planning and zoning, ii) infrastructure development strategy and iii) environmental protection planning are definitely necessary, since each of them never be planned so as to avoid rampant development and to enhance time efficiency of the ZEEN development. Thus, special attention should be paid for the oil refinery project because the project will lead to the off-site infrastructure provision that complements to the ZEEN infrastructure development and because it may cause the environmental problems to the Nacala Bay.

(3) Recommended Actions

The followings are recommended as the “urgent” short term actions that shall be tackled from now up to the year 2012.

- To prepare a guiding principle for determining the overall size of the development of the ZEEN, by considering the adaptation to the current and future level of economic development of the Nacala area,
- To prepare principles of planning of land utilization, such as to prevent disorderly development in advance and to aim for appropriate land use and natural environmental protection, and
- To establish a sort of “Land Use and Zoning Committee” participating relevant stakeholders to coordinate the whole process of the land use planning.

2-2. Infrastructure Development Strategy

(1) Current State

The comparative advantage of Mozambique in terms of infrastructure development is represented by the fact that “electric power is abundant and extremely cheap”. In the MCC master plan, it is highlighted that “the very low cost of electricity in Mozambique is a very significant

competitive advantage for the potential Nacala FTZ, especially for firms operating in heavy, power-intensive sectors”⁵. In this sense, for the development of ZEEN, the viewpoint of “how to efficiently supply abundant electric power to the Nacala Corridor and how to effectively use them” is of primary importance. There is no question about the production capacity at Cahora Bassa, but the domestic transmission network has not yet been modernized as pointed out in the previous sections. Although the electric power project is planned below as part of the Nacala Corridor development, the substantial linkages with ZEEN development is not fully taken into consideration. It is therefore necessary to prioritize the current plans and projects in correspondence with strategic consideration of the Nacala Corridor development.

- Modernization of power transmission between Nampula and Nacala
- Rehabilitation of domestic transmission network in Nampula and Nacala City
- New construction of power transmission between Nacala and Pemba
- New construction of power transmission between Gurue, Cuamba and Lichinga

Water shortage is one of the critical weak points in ZEEN development. Although there is a dam and water reservoir which currently supplies water to only a part of Nacala Porto District, the residents of Nacala-a-Velha depend on underground water. If the situation is the same, it must be quite difficult to invite to ZEEN the industries of the type that heavily consumes industrial water⁶. Moreover, it should also be taken into account that environmental issues normally becomes more radical at the area with little water resources.

The refurbishment of the existing dam, the expansion of water distribution network, and wastewater treatment projects are going to be all implemented by Millennium Challenge Corporation (MCC) Mozambique⁷. These projects include the enhancement of water reservoir capacity by the construction of additional 2 meter-high embankment over the existing dike, aiming at strengthening the amount of water supply. The detailed design was carried out; however, in line with demand forecasting made in the pre-feasibility study of two years ago, where there were no special economic zone plans and no oil refinery projects. Given these, even the enhanced reservoir of the above cannot meet the future demand which corresponds to the ZEEN development (and the oil refinery plant at Nacala-a-Velha).

MCC pointed out that the realistic option would be the new construction of a dam on the Sanhute River if securing bigger amount of water to supply for ZEEN and other industrial zones to be built⁸. Also, Nacala municipality said that the utilization of water resource of the Monapo River could be taken into account⁹.

The urgent issue with regard to the Nacala Port is to refurbish the existing port facilities and expand the cargo transaction capacity. The development needs in the short run would be i) the expansion of cargo handling capacity (from current 45,000 TEU/year to 70,000 TEU/year), ii) the enhancement of refrigerated container handling capacity, iii) new construction of cold chain-related facilities (incl. refrigerated warehouses, etc.), iv) agro products storage facilities such as cereal silos. In addition to these, improvement of port operation and administrative procedures should also be of great importance. If the demand arises and operational condition improves at the Nacala Port, scheduled container lines will be opened to the origin of importing ports and to the destination of exporting ports.

Regarding the railroads, to improve the railroad operation between Nacala – Nampula - Cuamba is the highest priority, together with the need for a comprehensive remedy of improving the physical distribution environment mentioned later. Currently the roads are the main mode for goods transport in the Nacala Corridor, and this largely depends on the non-punctuality and low reliability of the current railroad operation. The railroad should serve as principal mode of the physical distribution system in the northern Mozambique, and a new and additional measurement by

⁵ Source: TSG (2006) Nacala Free Trade Zone Development Study, Preliminary Report (Revised), Millennium Challenge Corporation.

⁶ Use of sea water to some specific industries can also be one of the options to solve this problem, but not the short term solution.

⁷ Source: Interview results from MCA

⁸ Interview results from MCA Mozambique

⁹ Interview results from Nacala Municipality

CDN which the stockholder changed just a few weeks ago is urgently desired.

Regarding the airport, it is necessary to explore the time for transition from military to civil/commercial airport, mainly because that tenacious negotiation with the army is generally required for a private sector to use a military airport. In the short term, it cannot but become the airport for joint military-civilian use.

The condition of road is preeminently better in the leg between Nacala and Nampula, giving the satisfactory level of services to the road user. About other basic infrastructures such as sewerage, wastewater treatment, communication, etc., the phased development according to the needs of the moving-in firms of ZEEN could serve as an issue.

(2) Future Directions

From the short term perspective, it is urgently recommended to provide basic infrastructure surrounding the ZEEN. Main issue is the early improvements in “water supply capacity” that are identified by many governmental agencies and private enterprises (put water supply facilities in place). At the same time, improvement of “power supply service levels” (strengthen supply capacity from Cahora Bassa) is also essential for attracting industries into the ZEEN. Concurrently, early development of other basic infrastructure (sewerage, waste water treatment, communication, access roads, railways and the like) is also necessary.

From the medium to long term perspective, access to northern Mozambique, Malawi and Zambia would primarily be focused on, with (i) the development that emphasizes regional features and (ii) keeping phased economic and industrial development in mind, and iii) long term infrastructure development strategy for cross-border infrastructure with Malawi and Zambia (roads and railroads)¹⁰

(3) Recommended Actions

Taking the above into account, the following table summarizes the action areas and recommended actions, from the perspective of short run. As recommended in the previous section of Land use zoning plan, it is of essentially importance to secure the effective linkage between land use planning and infrastructure development strategy. (Note that the actions suffixed by (*) in the following table are recommended as the “urgent” short term ones.)

Chart III-2-4 Short-Term Infrastructure Development Plan (Recommended Actions)

Areas for Actions	Short-Term Action Plan (up to FY 2015)	Stakeholder In Charge
Water Supply (Industrial)	<ul style="list-style-type: none"> A water treatment plant (which source is groundwater) will be newly constructed at the areas where industries are to be concentrated within the ZEEN. 	Nacala Porto Nacala-a Velha Nacala Municipality National Directorate of Water (DNA) Nacala Water
Water Supply (Drinking)	<ul style="list-style-type: none"> Rehabilitation of existing dam, water treatment facilities, etc.(through MCC projects) 	Nacala Municipality DNA Nacala Water MCC
Electricity	<ul style="list-style-type: none"> Rehabilitation of power transmission line (110kV) between Cahora Bassa – Nampula – Nacala Construction of Malawi-Mozambique Interconnector transmission 	EdM
Roads	<ul style="list-style-type: none"> Improvement of secondary roads inside Nacala Porto District Pavement of secondary roads inside Nacala-a-Velha District Construction of access roads to oil refinery plant site (at Nacala Velha District)(*) Improvement of secondary road between Lichinga – Montepuez (*) Improvement of arterial road between Nampula – Cuamba (*) 	ANE

¹⁰ For the medium term, it will also be necessary to keep in sight the regional development in the suburbs of Nampula City and Niassa Province (located at innermost place in the Corridor in Mozambican side).

Areas for Actions	Short-Term Action Plan (up to FY 2015)	Stakeholder In Charge
	<ul style="list-style-type: none"> Pavement of arterial road between Cuamba - Malawian border Pavement of arterial road between Cuamba - Lichinga 	
Railroads	<ul style="list-style-type: none"> Improvement of railroad operation between Nacala – Nampula (*) Improvement of railroad operation between Nampula – Cuamba (*) Rehabilitation of rail track between Cuamba - Lichinga Rehabilitation of rail track between Cuamba - Entre Lagos Improvement of operational condition of the rail inside the Nacala Port (*) Construction of access railroads to oil refinery plant site 	CDN CFM
Port	<ul style="list-style-type: none"> Expansion of cargo handling capacity (from current 45,000 TEU/year to 70,000 TEU/year) (*) Enhancement of refrigerated container handling capacity (*) Construction of cold chain-related facilities (incl. refrigerated warehouses, etc.) (*) Construction of agro-products storage facilities (such as cereal silos) (*) Improvement of port operation and administrative procedures (introduction of stevedoring facilities like gantry cranes, etc.) Opening scheduled container line services Rehabilitation of bulk cargo terminal 	CDN CFM
Airport	<ul style="list-style-type: none"> Joint operation for military-civilian use (*) Construction of passenger terminal (quick-built unit) Start to operate scheduled domestic flights and chartered international flights, including air cargo 	Not known Army
Telecommunications	<ul style="list-style-type: none"> Introduction of optic fiber cable to the ZEEN Further dissemination of fixed telephone lines at Nacala and Nampula city area 	Mozambique Telecom
Solid waste management	<ul style="list-style-type: none"> Utilizing landfill disposal site for solid waste (*) Construction of composting facilities inside the ZEEN 	Nacala Porto Nacala-a Velha Nacala Municipality

Note): The actions suffixed by (*) in the above table shows the “urgent” short term ones.

2-3. Environment Protection Strategy

(1) Current States

According to WWF¹¹, Mozambique’s environment, in general, is still in good condition by the global standard. However, there are several environment issues are pointed out by different sources, as follows.

- Loss of natural habitat: About 80% of population live in rural area and depend on wood cooking and heating, which may result in deterioration of forest resource. Traditional “slash and burn” practice in agriculture accelerates deforestation in rural areas.
- Pollution at ocean: Off Mozambique coast, tankers carrying crude oil from Arabian Gulf sometimes makes contamination of the sea by spills and discharge of polluted ballast waters, however, the open sea pollution is not yet a major problem.
- Urban water pollution: Near the main urban centers such as Maputo and Beira, the amount of untreated sewage is increasing and may cause a problem, depending on circulation pattern.¹² In urban setting, the local sewage treatment is inadequate and exposing people with potential outbreaks of disease.
- Solid waste: The solid wastes by both industrial and urban domestic sources are dumped at designated dumping site, while no incineration device is introduced.
- Air pollution: There was a case of air pollution claim by residents in Matola, near Maputo, against a foreign invested cement company for its dust emission in 2006, due to malfunction of

¹¹ World Wildlife Fund: www.panda.org

¹² “Science in Mozambique”: www.aaas.org

electro-filters.¹³

The above points are from issues surrounding the country as a whole, not specific to Nampula or Nacala region, however they suggest environment subjects to be considered for the development of the SEZ.

Based on the findings through the field survey for the ZEEN region, the following points are identified.

- Nacala-Porto: partly urbanized, potential problems by industrial and urban waste.
- Nacala-a-Velha: under developed area with intact nature, no protection measures imposed.
- Nacala Bay: as a case of enclosed coastal sea, particular attention is needed to set up total discharge standard of pollutant.

(2) Future Directions

Since the area is still maintaining healthy environment, urbanization and industrial development easily deteriorate the conditions, by waste water discharged to rivers and half-closed Nacala Bay. The solid waste dumped to inland site which will affect soil and underground water quality, deforestation to accelerate soil erosion and air pollution with an impact to health conditions of local residents. The future direction is to take advance actions to prevent environment deterioration, as follows.

- Well-controlled solid waste, sewage system and air pollution through regulatory and technical measures.
- Nature preservation measures with designated protection area and monitoring.
- Seek for zero-emission recycling society with reduced amount of total waste volume.

(3) Recommended Actions

In order to protect the ZEEN area from negative environment problems, the following actions are recommended to be taken¹⁴.

- Environment inventory study to comprehend the area's current environment (Short term)
 - Conduct studies on all aspect of environment in the area from aspects of water, soil, vegetation and forest, air and bay area coast.
 - Categorize the current environment quality and analyze for measures required.
- Bay Area: Studies to set-up affluent standard by industries and urban waste water.
 - Referring to experience of environment protection measures for enclosed coastal sea, e.g. Tokyo Bay, Ise Bay and Seto Inland Water in Japan, the study is to be made to identify conditions of Nacala Bay. (Short term)
 - Based on total discharge amount of pollutant, affluent standard is to be set up for industrial waste water and urban domestic discharge.
- Inland Green and Protection: To regulate development by cutting plants from soil erosion prevention.
 - To designate areas to be protected from cutting trees and vegetation. (Short term)
 - Plan for forestation to recover the lost trees and plants.

¹³ www.corpwatch.org

¹⁴ Actions recommended to be taken by year 2015 is indicated as (Short term)

- d) Urbanized Area: Measures to handle solid waste and building sewerage system.
- Review solid waste (garbage) disposal system being adopted for sustainable system to prevent inland vegetation protection and leach water to deteriorate underground water. (Short term)
 - To plan sewage system for the urbanized area for building collector and treatment system, while encouraging non-collective system, individual septic tanks, for rural area.
- e) Tourism Area: Measures for waste water treatment and intact natural resource preservation.(Short term)
- Establish preservation area for tourism and eco-tourism resources.
 - Particular attention for waste water treatment for tourist facilities, hotels and restaurant.
- f) Industry: Guide for zero-emission system.

Future Goal: Zero Emission Society

Chart III-2-5

- The concept of Zero Emission was proposed by United Nations University in 1994, following Earth Summit in 1992, to form a no waste emission society.
- In the nature's world, the plant and animal are in complete ecological chain, and does not emit any waste. Zero Emission Model is to build resource cycling system covering agriculture, industry and all other economic and social activity of human being.
- The waste from one industry can be raw material for another industry. The waste from food industry can be fertilizer for agriculture, steel sludge can be a material for construction material, etc.



Source: <http://eco.goo.ne.jp>

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2-4. Distribution System Strategy

(1) Current State

General View – High Transportation Cost

The landlocked countries face high costs of shipping since they have to pay rail and road costs across international boundary in addition to sea freight costs to overseas markets. Thus, both domestic transport costs (within a country) as well as international transport costs are high. However, the Southern African region generally is at a significant transport cost disadvantage, even not in landlocked countries, relative to competitor countries. International transport costs by sea and air adversely affect the level of exports, and onto these costs must be added those of inland transportation and port charges which are high in some countries¹⁵.

Using firm level data from fifteen countries including Mozambique as shown in the following figure, Eifert and Ramachandran (2005)¹⁶ found that high indirect costs due to high

¹⁵ Source: Imani-TMT Transport Consultants (Pty) Ltd (2002) Nacala Development Corridor – Technical Paper on Transport Logistics

¹⁶ Source: B. Eifert, et al (2005) Business Environment and Comparative Advantage in Africa -:Evidence from the Investment Climate Data, Washington D.C.

transportation costs as well as utility costs, bribes, security, etc. severely depressed productivity of private firms in Africa¹⁷. In particular, among nine Sub-Sahara African countries shown in the figure, including Senegal, Ethiopia, Nigeria, Uganda, Zambia, Tanzania, Kenya and Eritrea, Mozambique is deemed as the country of having “most expensive indirect cost structure” in this region. Especially for the Nacala Corridor, furthermore, the figure indicates that some prices in the Nacala Port set higher compared to other corridors like Maputo and Beira located in the same country.

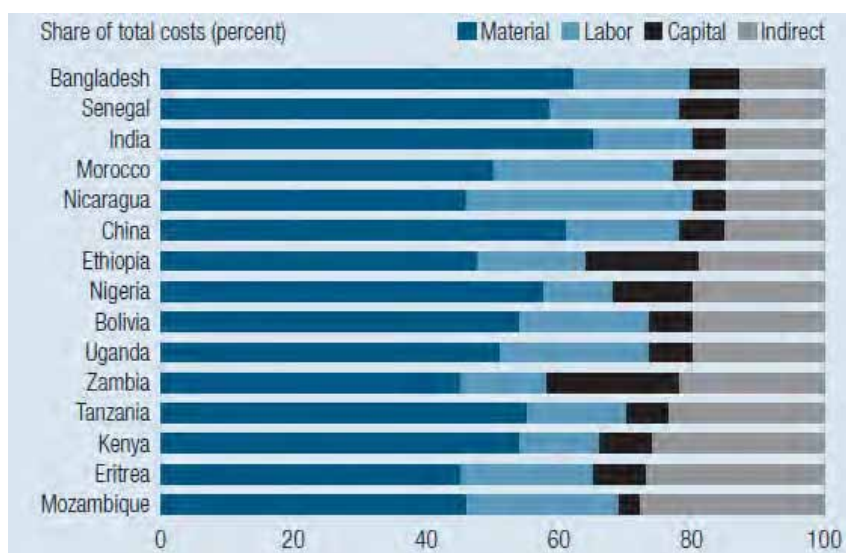


Chart III-2-6 Private Firms' Cost Structure
Source: WB (2008) Africa Development Indicators 2007, pp.5

Current State along the Nacala Corridor

The logistics of the Nacala Corridor contains the service providers of shipping, forwarding and warehousing, as well as insurers, packaging suppliers, national road agencies and other related authorities. It is also necessary to recognize both alternative logistics channels and the various aspects that determine modal selection (especially the selection of truck or rail mode) and its logistical efficiency in terms of transportation costs and time.

As discussed in the previous chapters, the critical function of logistics systems of the Nacala Corridor are focused on the efficient provision of export and import channels to and from the Nacala Port. It is often said that the Nacala Port would be the most logical choice among other “rival” ports like Beira, Dar es Salaam and Durban which are currently handling a certain amount of cargos for the two landlocked countries, Malawi and Zambia, because of its direct rail link to the Malawi-Zambia border. However, the Corridor faces competition from private truck operators that provide reliable and timely services between Malawi and Beira as well as between Malawi and Johannesburg¹⁸. The volume of cargo handled through the Nacala Port is less than that of Maputo and Beira since the scale of hinterland economy is rather small and being developed. As to general cargo, the port operates at only about 30% of its capacity¹⁹. The machines and equipment for stevedoring at the port is inadequate, so it is necessary to acquire more gantry cranes and forklifts in order to shorten the loading and unloading time. Additionally and more importantly, the lack of cold storage facilities like refrigerated containers and warehouses at the Nacala Port at present could

¹⁷ Eifert, Gelb and Ramachandran also pointed out that the figure (left) underestimates the magnitude of “real” indirect costs in Africa and the productivity gaps are biased upwards, because African firms facing high transport costs may be using less physical raw materials than the dollar values suggest.

¹⁸ Source: Imani-TMT Transport Consultants (Pty) Ltd (2002) Nacala Development Corridor – Technical Paper on Transport Logistic, NDC

¹⁹ Whereas the volume of all cargo handling is less than that of other ports, the volume of containers and general cargo is increasing every year because of the growth of domestic distribution. CDN reported that the handling capacity of container cargo should urgently be expanded, corresponding to the increasing demand. (Source: Interview results from CDN)

be a disincentive for the export of agricultural and fishery products, especially of the perishable ones.

Tariffs in US\$ Main Ports of Asia

Origin	Destination	Container (1x20')	Container (1x40')	Origin	Destination	Container (1x20')	Container (1x40')
Hong Kong	Map/Beira	2,950	5,300	Jakarta	Map/Beira	2,850	2,850
	Nacala	2,950	n.a		Nacala	5,100	5,100
Singapore	Map/Beira	2,750	2,750	Shanghai	Map/Beira	3,200	3,200
	Nacala	4,900	4,900		Nacala	5,800	5,800
Busan	Map/Beira	3,050	5,500	Port Kelang	Map/Beira	2,750	2,750
	Nacala	3,050	5,500		Nacala	4,900	4,900
Bangkok	Map/Beira	2,950	2,950				
	Nacala	5,300	5,300				

Tariffs in US\$ Ports of China

Origin	Destination	Container (1x20')	Container (1x40')	Origin	Destination	Container (1x20')	Container (1x40')
Fuzhou	Map/Beira	3,300	6,000	Xingang	Map/Beira	3,250	5,900
	Nacala	3,300	6,000		Nacala	3,250	5,900
Guangzhou	Map/Beira	n.a	n.a	Yantian	Map/Beira	3,000	3,000
	Nacala	n.a	n.a		Nacala	5,200	5,200
Xiamen	Map/Beira	3,200	5,800	Ningbo	Map/Beira	3,300	3,300
	Nacala	3,200	5,800		Nacala	6,000	6,000

Tariffs in US\$ Main European and South African Ports

Origin	Destination	Container (1x20')	Container (1x40')	Origin	Destination	Container (1x20')	Container (1x40')
Leixões	Maputo/Beira	2,450	4,475	Lisbon	Map/Beira	n.d	n.d
	Nacala	2,950	5,200		Nacala	n.d	n.d
Valência	Maputo/Beira	2,450	4,250	Barcelona	Maputo/Beira	n.d	n.d
	Nacala	2,950	5,250		Nacala	n.d	n.d
Tilbury & NWC Ports	Map/Beira	2,700	4,800				
	Nacala	3,100	5,550				

Chart III-2-7 Indicative Cargo Fees from Major Ports in Mozambique

Source: JICA (2007) The Project Formulation Study on the Promotion of Industrial Development in Major Corridor Areas in Mozambique (Original source: CPI)

The number of days required for export procedures at the port is one to two days, and for imports about six to seven days, which is shorter than those at the Beira Port²⁰. On the other, referring to cargo headed for Malawi, it takes an average of 25 days after the cargo arrives at the Nacala Port until it leaves for Malawi²¹. It is said that the reason for this is not because of customs procedures but because of inefficient transshipment from marine transport to railroad one, mainly resulted by a lack of rolling stocks and locomotives to transport the goods on the railroads. Also, there have been delays in railroad repair work, and the railroad only runs as far as Cuamba.

Regarding the road transport, the surface condition seems to be good mainly in the leg between Nacala and Nampula. By contrast, the road west from Nampula has not been paved and its condition is extremely poor. It is widely recognized that transportation is especially difficult in the rainy season, as the road become muddy and trucks are often left mired and stranded²².

(2) Future Directions

The establishment of efficient logistics supply chains plays a critical role in the economic development including trade promotion, and of course depends on efficient transport systems. In this regard, it is of primary importance to formulate a strategy that meets the particular features of

²⁰ Source: JICA (2007) The Project Formulation Study on the Promotion of Industrial Development in Major Corridor Areas in Mozambique (Original source: CPI)

²¹ Source: Ibid.

²² The road improvement between Nampula and Cuamba is currently planned for the near future with funding from donors, including Japan.

the movement of goods along the Nacala Corridor, and ii) in particular, a strategy to establish overall physical distribution system that meets the trade and investment promotion strategies being examined in this report.

To sum up the observed facts of the above and results of interview with related stakeholders, the followings could be raised as the key action areas for improving physical distribution system along the Nacala Corridor.

- Reduce high transportation cost,
- Improve cargo handling activities at the Nacala Port,
- Provide efficient transshipment from marine transport mode to railroad one,
- Provide more cold storage facilities at the Nacala Port and along the Corridor, and
- Improve road condition and railroad operation

The following figures show the schematic images of current and desired transportation cost structure in the Nacala Corridor.

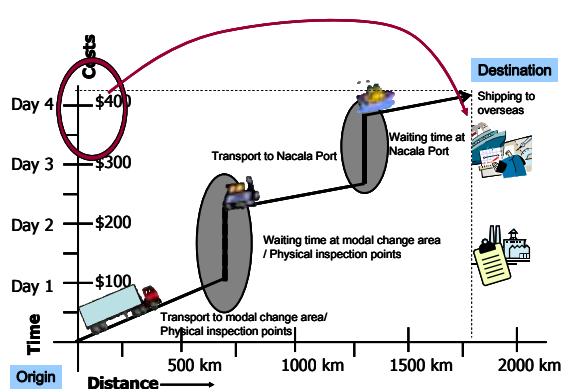


Chart III-2-8 Current Cost Structure (Image)

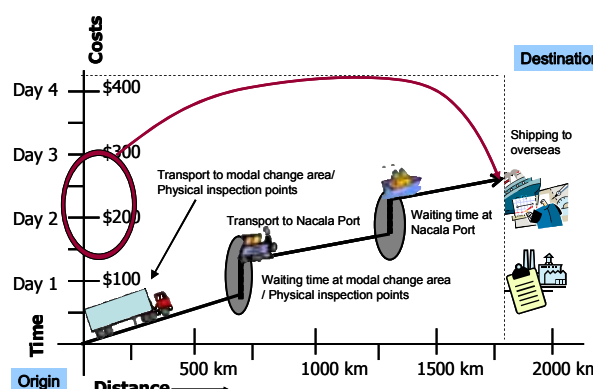


Chart III-2-9 Desired Cost Structure (Image)

(3) Recommended Actions

To substantially tackle with the action areas indicated in the above, the following actions are recommended in a short run. (Note that the actions suffixed by (*) in the following table are recommended as the “urgent” short term ones.)

Chart III-2-10. Recommended Actions for Physical Distribution System Improvement Along the Nacala Corridor

Key Areas of Actions	Details of Recommended Actions	Stakeholders in Charge
Improvement of port operation efficiency at Nacala Port	<ul style="list-style-type: none"> • Reduction of stevedoring time by provision of machines / equipment (such as gantry cranes, forklifts, etc.) (*) • Introduction of EDI system for custom clearance procedures • Enhancement of handling capacity of refrigerator containers • New construction of refrigerated warehouses 	CDN CFM (Nacala Municipality) (Nacala Port District) (Nampula Province)
Improvement of operation efficiency at points of transportation mode change (between truck and rail)	<ul style="list-style-type: none"> • Reduction of transshipment time by provision of machines / equipment (such as forklifts) (*) • New construction of “dry port” (at Nampula, for example) where trucks and railroads can efficiently transfer cargos each other • Provision of refrigerator containers and trucks at dry port 	CDN CFM ANE (Nampula Province)
Improvement of roads and railroads operation	<ul style="list-style-type: none"> • Reducing transportation time by improvement of road condition, especially of secondary roads at 	ANE CDN

Key Areas of Actions	Details of Recommended Actions	Stakeholders in Charge
	rural area • Upgrading railroad operation by procurement of new rolling stocks (*)	CFM (Nampula Province)
Provision of Information-related Infrastructure	• Provision of information devices for commercial farms to access market information (especially info. about commercial crops)	Telecom agency (Nampula Province)
Improvement of custom procedures at border facilities Improvement of physical inspection by police	• Reducing the time spent for custom clearance by introduction of computerised procedures through IT (such as EDI) • Reduction of frequency of physical inspection (police stop/bloc) along the corridor, through mutual collaboration with the police (*)	CDN CFM Police Department (Nampula Province)

Note): The actions suffixed by (*) in the above table shows the “urgent” short term ones.

2-5. Human Resource Development Strategy

(1) Current States

Mozambique still suffers from critical shortage of highly educated skilled human resources, which is an essential element in economic, industrial and social development to support continued growth. While the SEZ may provide physical facility for enterprises, the human resource has to be prepared to meet the need of the investing entities. At present, there are 12 higher educational institutions in Mozambique, and 6 of them have their campus in Nampula.

- Universidade Eduardo Mondlane - Maputo
- Universidade São Tomas de Moçambique
- Universidade Católica de Moçambique - **Nampula**, Sofala, Cabo Delgado (*Law, Social science*)
- Universidade Mussa Bin Bique – **Nampula** (*management, accounting*)
- Instituto Superior Politécnico e Universitário - Maputo, Quelimane, **Nampula** (*Technical*)
- Instituto Superior de Ciências e Tecnologia de Moçambique
- Instituto Superior de Relações Internacionais
- Instituto Superior de Transportes e Comunicações
- Universidade Pedagógica - Maputo, Sofala, **Nampula** (*Teaching, Public administration*)
- Universidade Técnica de Moçambique
- Academia Militar Samora Machel – **Nampula** (*Military*)
- Universidade de Lúrio- **Nampula** (*Medical*)

Based on the interview during the field survey, it was expressed by Nampula Province officials that these institutions are more geared to social science, and technical and engineering faculties, required for industry, are in short of supply. There is a country-wide need for training industrial human resource, not only Nacala area. Nevertheless, the issues of concern at Nacala area are followings.

- Literacy rate of Nacala-a-Velha District is less than 20%. (48% for the country (2003))
- Higher education facilities only at Nampula.
- Lack of Industrial and engineering skill training institution.
- The majority of the area is agriculture based.

(2) Future Directions

As a consequence, the future direction should be on line to solve these deficiencies, including up-grading the general level of education in the local community, at the same time, to establish a technical training institution to educate Mozambique nationals for competitive human

resource for investing enterprises. The desired future goals are as follows.

- Basic education for all population
- Establish technological institutions.
- Create vocational training opportunities.
- Attract human resource from out of region and country.

(3) Recommended Actions

- a) Increase primary and secondary education facilities as a local community development program.
 - In order to bring benefit to the community, not only in terms of educational opportunity but also employment opportunities, basic education facility has to be strengthened by the state financial source as well as resource mobilized by CSR activity of investing enterprises.
 - An example is seen at Mozal Community Trust in Maputo, where the CSR contribution assisted building schools at neighboring community.
- b) Establish technological and vocational training institutions reflecting needs of investing enterprises, with assistance by foreign expatriate and volunteers.
 - The technological skill is a key factor for various types of manufacturing and service enterprises requires from the local human resources. While the state government is aware of such needs at national level, regional effort to invite private educational institution is another option to be considered, under concession system.
 - Another consideration is from demand side, the enterprise investing in a large scale project might be able to assist in establishing a training institution for their own staff as well as for other employers in the SEZ. The case of Toyota Technological institute is cited below.
- c) Establish multi-language institutions for international transshipment and corridor development.
 - Since the ZEEN is located at international crossroads with port, airport and corridors, demand for human resources with multi-linguistic capability will be high. The demand for transshipment business will be increased as well as for tourism industry.
 - The financial source is to be considered in combination of state and private sector interest.
- d) Invite research and development institutions unique to the region's natural resources.
 - International scholars and researchers for various discipline may be attracted for on-site laboratory testing, experimental activities, bio-diversity and unique natural environment of the area. The preservation of nature and eco-resort can be attraction, not found in other part of the world.
 - Inviting such research and academic activities can be started by universities and research institutions' initiative. A case of Techo-park in Tunisia is cited below.

A case of Automobile Company to Establish Technological Institution in Japan

Toyota Technological Institute (TTI) was established in 1981 as part of social contribution activities of Toyota Motor Corporation. TTI currently holds 445 students, consists of 364 undergraduate and 65 master's and 16 doctor's students. TTI established its branch institution in Chicago, USA, in 2003.

(source: www.toyota-ti.ac.jp/)

A case of Research Cooperation in Tunisia

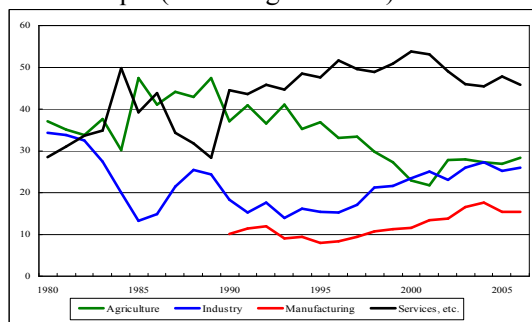
Borj Cedria Technopark in Tunisia is specialized in bio-technology, renewable energy and water resource, based on the country's semi arid land with unique species of plant variety. Tsukuba University of Japan is collaborating with this technopark in several fields of research, including bio-technology, in which field research and experiment is possible in the environment not available in Japan.

2-6. Industrial Development Strategy

(1) Current States

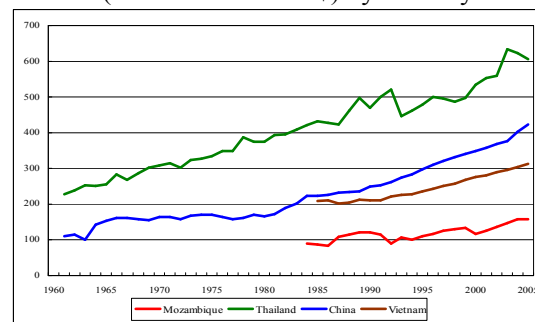
Although aluminum and bulk electricity by industry and energy mega projects have become significant commodities in the domestic value addition as well as on export, major economic sector in Mozambique can be said to be agriculture from a standpoint of labor force. It is generally said that approximately more than 80% of total employment are engaged in agricultural sector at present even after mega projects by foreign direct investments came to Mozambique. However, as shown in the following chart, sectoral value addition in agriculture has been less than 30% in recent years. At the same time, Mozambican agricultural productivity by value added per worker has been relatively low in the international comparisons.

Chart III-2-11. Sectoral Value Added of Mozambique (Percentage of GDP)



(Source) World Bank. 2008. World Development Indicators.

Chart III-2-12. Agriculture Value Added Per Worker (Constant 2000 US\$) by Country



(Source) World Bank. 2008. World Development Indicators.

Especially in the northern part of Mozambique, it is said that agricultural value addition became approximately 60% of total value addition (Regional Gross Domestic Product (RGDP)) because of serious weak industrial base with subsistence traditional farming by rain-fed cultivation and limited irrigation²³. As a result of relatively low level of value addition, INE reported that RGDPs Per Capita of Nampula Province and Niassa Province have been approximately one-third of that in the southern part of Mozambique. While variety of industrial production would be potential for the future, as for the time being, processing of agricultural products should be the first priority on the first phase of economic and industrial development. Therefore, in order to substitute food imports as well as export promotion, commercialization of such major agricultural outputs as cashews, cotton, sugar, citrus, timber and/or prawns should be promoted as product development strategy²⁴.

(2) Future Directions

Traditionally, northern part of Mozambique has a lot of potentials in agricultural production. According to JICA, Nampula Province covers an area of 80,000 km², and more than half of the land, 44,300 km², is suitable for agriculture, with only 30% or 13,000 km² used for livestock breeding. Of the farmland, only 4% or 500 ha are irrigated²⁵.

In addition to potentials for agricultural development, Mozambican government made agricultural development one of the first priorities on official policy documents. At first, for example, Mozambique's Action Plan for the Reduction of Absolute Poverty (PARPA I), Mozambican PRSP,

²³ According to NIE, although it is true that total population of Nampula Province and Niassa Province was 4,633,294, 23.1% of total population in Mozambique in 2004, RGDP in total of both Provinces was to be said as approximately 15%.

²⁴ According to World Development Indicators (2008) by World Bank, food imports in percentage of total merchandise imports were 14.7%, 14.4% and 13.9% on 2004, 2005 and 2006, respectively.

²⁵ JICA (Economic Development Department). 2008 (March). *The Project Formation Study on the Promotion of Industrial Development in Major Corridor Areas in Mozambique*. (95 page).

indicated “agriculture and rural development, with targets related to annual growth in agricultural production, cereals and cashew nut production, and incidence of food insecurity” as one of the six priority areas²⁶. This strategy was followed even in the PARPA II. Second, Industrial Policy and Strategy by Mozambique’s Ministry of Industry and Trade pointed out Nampula Province’s opportunity as a) processing and canning of seafood and fish, b) cereals processing industry in the districts of Malema, among others, c) processing of cashew fruit and cashew nut, d) processing cassava, e) cotton ginning and processing plant and f) reactivation of the textiles industry²⁷. Third, Nampula Province’s Strategic Development Plan (PEP) for 2003–2007 specified prioritized and agricultural-related areas as a) introduction of disease-resistant cassava, b) community drugstores, c) promotion of low-cost agro-processing techniques, d) production and promotion of mushrooms and e) production of honey and so on²⁸.

As stated above, agricultural development should be positioned as one of the prioritized development areas in Mozambique as well as Nampula Province by using strong agricultural production’s potentials. Based on present situations of the northern Mozambique areas, agricultural development should include sustainable agricultural production, stable food supply and promotion of rural development. From these points of view, appropriate agricultural product development strategy should be introduced for aiming domestic market as well as international market. In the second phase, surrounding market should be considered as Nacala port as hub port, which should be included as part of population with 13.75 million people in Malawi and with 11.70 million people in Zambia. In the third phase, DRC with population of 60.94 million in 2006 will be included as Nacala port’s market. In these countries, importing shares in manufacturing goods have been approximately 70 percent. On the Nacala port, some manufacturers can be thought to import parts and components for making goods by using land-, sea- and air-functions, assemble them and export completed goods to inland countries as exporting core.

(3) Recommended Actions

To promote agricultural product development, the following actions are recommended.

a) Promotion of Agricultural Processing and Packaging Industries

- Introduction and assistance of suitable technology in agricultural processing and packaging
- Development of human resources in agricultural processing and packaging
- Establishment of food safety regulations and standards
- Collection and provision of domestic and international market information

b) Improving of Food Distribution Functions

- Establishment of food distribution’s master plan
- Building of refrigerated and cold storages’ functions based on improving supply-chain system
- Development of human resources in management of distribution facilities

c) Strengthening of Development Functions of Agricultural Production Suitable for Northern Mozambique to Improve Agricultural Productivity

- Building of agricultural development master plan including improvement of irrigation, drainage, soil erosion, brine damage and/or soil improvement
- Establishment of experiment and research functions to improve agricultural productivity
- Development of human resources in experiment and research

d) Establishment of Disseminating System to Improve Agricultural Productivity

- Building of agricultural dissemination measures on vertical directions (from governments to

²⁶ World Bank (Operation Evaluation Department) and IMF (Independent Evaluation Office). 2005. The Poverty Reduction Strategy Initiative: Findings from 10 Country Case Studies of World Bank and IMF Support.”

²⁷ Establishment of Industrial Policy and Strategy was supported by the UNIDO. The Policy and Strategy was approved by Council of Ministers on July 2007.

²⁸ Nampula province’s Strategic Development Plan (PEP) for 2003–2007 was established on May 2002. The Nampua Province’s Government is now preparing new development plan for Province’s development plan entitled “Estrategia de Desenvolvimento Economico Local (EDE)” prioritizing development of small- and medium-sized enterprises (SMEs).

farmers) and horizontal directions (among farmers) including manuals and materials as well as workshops and seminars based on abilities and needs of farmers

- Education for agricultural extension workers

e) Promotion of Organizing Farmers

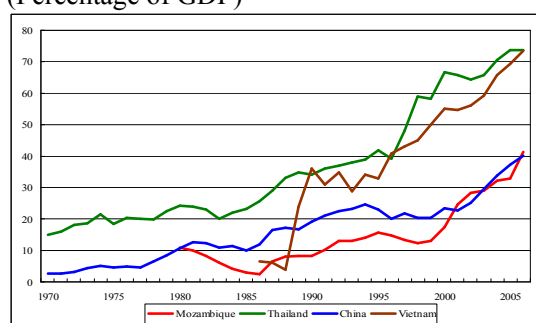
- Establishment of strategy for farmers' income generation by organization
- Establishment of Public Financing Scheme for Farmers
- Establishment of group purchasing for machineries, seeds and/or fertilizer

2-7. Trade Promotion Strategy

(1) Current States

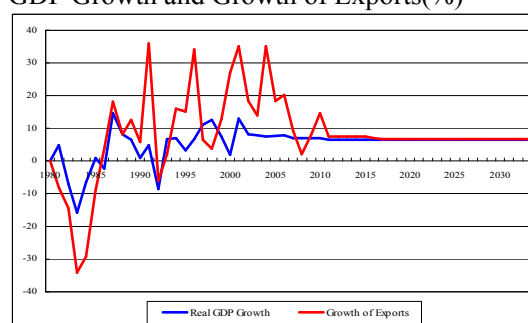
Thanks to large-scaled and export-oriented mega projects by foreign direct investments (FDIs), percentage of GDP in exports of goods and services has been rapidly increased from the end of 1990s. The present percentage of exports to GDP was approximately 40% in 2006. However, chronic tendency of deficits in trade account as well as in current account has been continuing. Therefore, as shown in the “2-8. Investment Promotion Strategy,” additional FDIs should be continuously required. At the same time, IDA and IMF made an assumption of more than 6.5% in growth of exports for the debt sustainability in the US\$ term.

Chart III-2-13. Exports of Goods and Services (Percentage of GDP)



(Source) World Bank. 2008. World Development Indicators.

Chart III-2-14. DSA's Assumption of Real GDP Growth and Growth of Exports(%)



(Source) IDA and IMF. 2007. Mozambique: Joint World Bank/IMF DSA.

According to average annual transaction volume of the three main ports in Mozambique by JICA, annual transaction of Port of Nacala is 45 million TEU in containers and 1 million tons in general cargo and shares of transactions in major three ports are 27.3% and these amount are 9.1%, respectively²⁹. The Nacala Port's has a hinterland of trade for northern Mozambique for the first phase, additional inclusion of Malawi and Zambia for the second phase (until mid-2020s) and even inclusion of DRC for the third phase (until mid-2030s). Therefore, consideration of hinterland are to be required for establishment of trade development strategy.

(2) Future Directions

Export promotion of agricultural commodities should be the first direction especially for the northern part of Mozambique. For Nampula Province, there are some development potentials by introducing location benefits for promoting export; a) existence of core function of private business as center of northern Mozambique, b) nodal point of supply-chain of land, ocean and air transportation, c) extensibility of land use and/or d) educational and cultural functions. By

²⁹ JICA (Economic Development Department). 2008 (March). *The Project Formation Study on the Promotion of Industrial Development in Major Corridor Areas in Mozambique*. (129 page).

maximizing these underlying potentials, policies and institutional measures for economic and industrial promotion should be introduced and implemented for pursuing poverty reduction, acquisition of foreign currency and sustainable development.

As described above, agricultural commodities' export promotion should be in the first phase (until mid-2010s). Although there are much potential in the commodities in Nampula Province, these potentials are not utilized for pursuing sustainable economic and industrial development. At present, competitiveness even in cost as well as even in quality is on the weak aspects. As mentioned on the "2-6. Agricultural Product Development Strategy," in addition, packaging quality should be improved not only for domestic supply but also for international market. Furthermore, standard requirement should also be adjusted for suitable for partners' market. Thus, there are many prerequisites for export promotion. By strengthening basement for agricultural commodities' export promotion, required preparations for some manufacturing exporting in the second phase and in the third phase can also be implemented. Images of economic and industrial development process are in the cases of ones in Thailand and Malaysia as follows:

Chart III-2-15. Economic and Industrial Development Process of Thailand (THA) and Malaysia (MAS) (Average in Period)

	GDP Growth (Annual %)		GDP Per Capita (Constant 2000 US\$)		Agri. Value Added (%)		Industry Value Added (%)		Exports (% of GDP)		Agri. Value Added (Constant 2000 Million US\$)	
	THA	MAS	THA	MAS	THA	MAS	THA	MAS	THA	MAS	THA	MAS
1961-65	7.2	6.9	366	874	33.1	32.3	21.1	25.0	16.1	43.1	3,006	-
1966-70	9.2	6.1	474	1,038	29.2	29.2	24.5	26.6	16.4	40.3	3,987	3,361
1971-75	5.8	7.2	579	1,290	26.2	28.0	26.7	31.1	18.5	40.0	4,902	3,963
1976-80	8.0	8.6	741	1,669	24.6	25.4	29.1	37.8	21.4	51.3	6,156	5,038
1981-85	5.4	5.2	898	2,044	18.7	20.5	30.8	38.8	22.4	51.9	7,474	5,933
1986-90	10.3	6.9	1,210	2,272	15.0	18.6	34.9	39.5	31.3	66.1	8,925	7,029
1991-95	8.6	9.5	1,789	3,095	10.4	13.9	39.7	41.0	38.3	83.2	9,837	7,530
1996-00	0.6	5.0	2,008	3,776	9.6	11.1	40.7	45.8	54.2	109.3	10,414	7,644
2001-05	5.0	4.5	2,233	4,122	9.8	9.0	43.1	49.3	68.0	117.8	11,980	8,561

(Source) World Bank. 2008. World Development Indicators.

(3) Recommended Actions

To promote trade, the following actions are recommended.

a) Establishment of Trade Promotion Strategy

- Introduction of timeframe consideration (phased development)
- Environmental concern
- Harmonization with local community
- Improvement of private entities

b) Strengthening of Trade Promotion Organization including Strategic Participation in Domestic and International Trade Fairs and Exhibitions

c) Improvement and Implementation of Capacities to Harmonize International and Regional Trade Frameworks and Rules

- Improving capacities to establish policies and institutions
- Harmonization of international trade policies and domestic economic and industrial policies
- Promotion of dialogues between government and private entities

d) Human Resource Development for Administrative Strengthening

e) Promotion to Provide International Market Information

- Improvement of collecting international market information
- Establishment of measures to disseminate market information to farmers
- Institutional information of trade partners including tariff, trade policies and institutions

f) Improvement of Testing, Inspections and Quarantine Capacity

g) Establishment of Efficient and Effective Standardization

h) Establishment of Efficient Trade Procedure

- Promotion to introduce information and telecommunication technology (permissions and authorizations, customs clearance, ports, quarantines, port entry and exit procedures)
- Enhancement of streamlining private procedures including legal claims among shippers, carriers, financial institutions and documentation including shipping contracts and/or insurance contracts)

2-8. Investment Promotion Strategy

(1) Current States

According to the World Bank's Doing Business 2009, Mozambique is ranked as 141 out of 181 economies in "ease of doing business in total." Especially in the categories of "protecting investors" and "paying taxes" are ranked as 38 and 88, respectively. Based on the great efforts by the Mozambique's government, the country's business environments became more preferable. That effort led to attracting mega projects to the country.

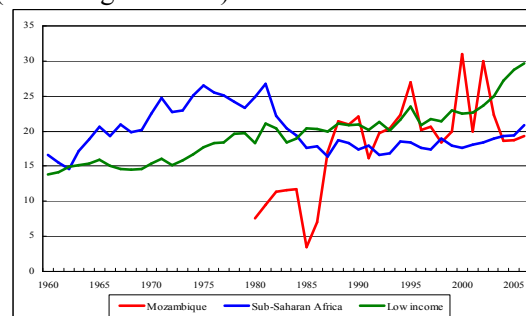
In fact, Mozambique's gross capital formation has been increasing as a trend from the end of 1980s. Although there are some fluctuations, gross capital formation has been more than 20% to GDP in general. The level has been more than one in Sub-Sahara Africa and, at the same time, same one in low income countries.

Chart III-2-16. Rank of Mozambique: Doing Business 2009's Ranks (181 Countries)

Ease of Doing Business in Total	141
Starting a Business	144
Dealing with Construction Permits	153
Employing Workers	161
Registering Property	149
Getting Credit	123
Protecting Investors	38
Paying Taxes	88
Trading Across Borders	140
Enforcing Contracts	124
Closing a Business	133

(Source) World Bank. Doing Business 2009.

Chart III-2-17. Gross Capital Formation (Percentage of GDP)



(Source) World Bank. 2008. World Development Indicators.

There are some new FDIs to Nampula Province as follows. According to the data from the Nampula Province's government, activities are highly concentrated on agriculture and its related areas. On the contrary, target markets are varied based on each investment's strategy. From these points of view, the northern Mozambique has some benefits from agricultural investment by using Nacala (sea) ports.

Chart III-2-18. New FDI from 2006 to 2008

Name	Activity	Amount of Investment (US\$)	Production Capacity	Number of Employees	Start-up date	Target Market
Condor nuts	Cashew nuts processing	2.3 millions	8 to 10 thousand tons of cashew nuts; storage capacity 6,000 tons	500-600	2008/6/1	Europe, America and Asia
Novos Horizontes	Poultry - Chicken production	2.1 millions	10 to 40 tons of chicken per week	80-121	operational	Nampula, Beira, Maputo; RSA later
Miranda Industrial	Ricina oil (pure)	4.5 millions	10-50 000 tons of ricina oil per year	70-350	2008/7/1	Europe, USA and RSA
Matanusha	Banana production for export	50 millions	100-140 containers per week	3,000 workers and 120 managerial staff	2009-2010	Europe and USA
Icuro	Processing of white sesame oil	90 thousand excluding raw material and promotion	6 tons of sesame oil with 99% purity, 1500 tons per year	Aassociated producers	2008-2009	Japan, USA and Canada
Blancom	Peanuts processing	1 million in equipment	4-6 000 tons of peeled semi-roasted peanuts per year	30 permanent	2008/7/1	Mainly RSA; Europe later

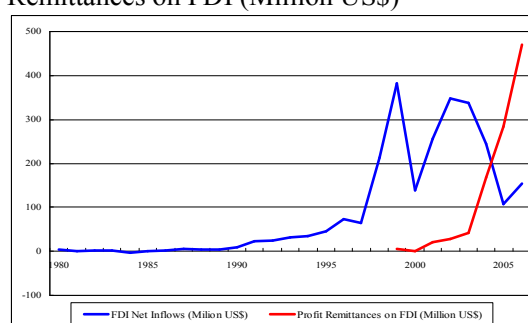
(Source) Integrated development coordination unit, Government of Nampula Province

(2) Future Directions

Facing serious shortage of domestic saving, FDI should be very important for capital formation in the country. Attracting FDI has a series of benefits for economic and industrial development; a) job creation, b) expansion of domestic market for local businesses, c) tax revenues for government, d) transfer of hands-on business and management methods, e) technological transfers and so on. By attracting Mozal S.A.R.L., for example, invested by BHP Billiton, Mitsubishi Corporation, South Africa's government and Mozambique's government with 1,910 million US\$ in total until now, 1,135 jobs were created at the time of June 2006 and not only technology but also management skills have been transferred to the country. At present, approximately 60% of value of export is generated by the Mozal. In addition, there are many local supply from local business entities.

As shown in the following chart, net inflows of FDI to Mozambique was increased rapidly from 1998. However, at the same time, profits remittances on FDI had jumped up from 2004. Therefore, continuous new FDI as well as reinvestment within the country should be required for sustainable economic and industrial development.

Chart III-2-19. FDI Net Inflows and Profit Remittances on FDI (Million US\$)



(Source) World Bank. 2008. Global Development Finance.

(3) Recommended Actions

To promote investment, the following actions are recommended.

a) Establishment and Implementation of Strategy for Attracting FDI

- Targeting of industries
- Targeting of countries
- Introduction and implementation of tax incentives
- Authorization of export processing zones
- Preparation of booklets and materials to attract FDI

b) Introduction and Improvement of Related Laws

- Introduction and improvement of such required laws as business law, investment law, competition law, local employment law and/or intellectual property law

c) Strengthening of Investment Promotion Organization

- Improvement of one-stop-service for efficiency and simplification of investment procedures
- Establishment of local companies' database for local supply by involving private entities
- Research of other countries' investment promotion strategy, policy and institution
- Organization of investment promotion's fairs and/or delegations
- Establishment to provide advisers/consultants for local business
- Development of human resources as required and appropriate administrative staffs
- Support of employment offers

d) Establishment of "Aftercare" Function

- Regular contacts with in-existing investors for improvements of business environments

2-9 Tourism Development Strategy

(1) Current state

Mozambique possesses about 2,500km of coast line and abundant tourism resources such as tropical beach, coral reef and valuable historical heritages. Since tourism has a potential to make a sustainable contribution to the state budget and job creation, PARPA II positions tourism as one of the prioritized area for economic development. In fact, Mozambican tourism is growing rapidly. According to MIGA (2007)³⁰ 700,000 of tourists visit Mozambique and Mozambican tourism records about 10% annual growth. From the point of view of national economy, tourism contributes 1.2 percent to GDP (MIGA, 2007).

Mozambique has lots of tourist destination. In the southern part of the Mozambique, Inhambane province is one of the favorite destinations for tourists. Inhambane province offers tropical beach and natural reserves such as Costa Morrungulo and Reserva de Pomene to tourists. In the middle, Sofara province has two reserved area; Parque national de Grongosa and Reserva de Marromeu. In the north-east, Niassa province possesses both excellent waterfront resources along the Lago Niassa and Niassa Reserve. Niassa Reserve is the largest conservation area of Mozambique with a surface of 42,000Km² and it is one of the largest protected miombo forest ecosystems in the world³¹. Niassa Reserve provides eco-tourism and adventure trails in the core areas and safari hunting and wildlife breeding in the buffer zone with tourists. In the North, Pemba is one of the popular destinations for tourists. Pemba offers world-class beach resort such as Quirimbas Archipelago and Ibo Island.

The ministry of Tourism of Mozambique selected 18 geographical areas as strategic zones of tourism investment.

³⁰ MIGA (2007) "Snapshot Africa-Mozambique Benchmarking FDI Competitiveness"

³¹ <http://www.niassa.com/section-background/>

Chart III-2-20 18 strategic zones of tourism investment in Mozambique

Zona costeira de Matutuine (Maputo)	Arquipelago de Bazaruto (Inhambane)
Parque nacional do Limpopo(Gaza)	Parque Nacional de Gorongosa (Sofala)
Corredor dos Parques nacionaice de Banhine, Zinave e Bazaruto	Reserva de Marromeu (Sofala)
Inhambane (Gaza)	Ilha de Mocambique (Nampula)
Reserva de Pomene (Inhambane)	Chocas Mar (Nampula)
Costa Morrungulo (Inhambane)	Pemba (Cabo Delgado)
Vilanculos (Inhambane)	Ibo (Cabo Delgado)
Praia do Tofo (Inhambane)	Lago Niassa (Niassa)
Cidade de Inhambane	Reserva do Niassa (Niassa)

Source: Ministry of Tourism www.mitur.gov.mz/projectos.htm

Among them there are two areas in Nampula province where Nacala SEZ is located; Ilha de Moçambique and Chocas Mar which is about 40km north of the Ilha de Moçambique across the Mossuril Bay and has a long pristine beach. In addition to above, transforming Nacala and Ilha de Moçambique into cultural tourism destination is a part of the target for next 10 years set by the Ministry of Tourism of Mozambique.

There are certain tourism resources within Nacala SEZ. In Nacala-Port district, there is an airport which can be the key tourism infrastructure in the region. Although the airport is under the control of Mozambican military, currently, private planes can take off and landing with prior permission of related authority. Besides an airport, Nacala-Port district has some tourism infrastructure such as hotels and tropical beach. Especially, on the Indian Ocean side there remains untouched beach and sometimes people can enjoy whale watching. In Nacala a Velha district, there is beautiful coast though its touristic potential has not been realized due to lack of tourism infrastructures. In addition to above, Nacala SEZ possesses potential tourism resources along the Nacala corridor such as firms cultivating cashew nuts.

FDI in Mozambican tourism sector mainly comes from South Africa, Portugal, Saudi Arabia and Italy (MIGA, 2007). According to the MIGA (2007), there are opportunities for tourism development in eco-tourism, scuba diving and other water related recreational activities and cultural tourism. MIGA (2007) states that in developing Mozambican tourism one of the advantages lie in the low hotel construction cost. However, the report also states that road conditions, weak air transportation network and the lack of skilled English speaking workers might be potential constrains for development.

(2) Future Direction

In considering future direction of tourism development in Nacala SEZ, it is important to clarify who will be the targeted customers. For tourism in and around the Nacala SEZ, the primary target will be foreign residents and business people visiting Nacala and Nampula. One of the key issues for Nacala SEZ tourism development is to provide targeted customers with time for relaxation by using local tourism resources such as natural coast, culture villages, plantation farming rather than to build something totally new. In line with this thought, Eco and Agro-tourism will be emphasized attractions.

According to the International Ecotourism Society (TIES³²) eco-tourism is defined as *"Responsible travel to natural areas that conserves the environment and improves the well-being of local people."* In order to be recognized travel activities as eco-tourism, activities need to minimize impact on environment, build environmental and cultural awareness and respect and provide positive experiences for both visitors and hosts (TIES, 1990). In the context of Nacala SEZ, activities such as diving, other water related activities and whale watching will be recognized as eco-tourism.

Agro-tourism can be described as *"a mild form of sustainable tourist development and multi-activity in rural areas through which the visitor has the opportunity to get acquainted with agricultural areas, agricultural occupations, local products, traditional cuisine and the daily life of"*

³² TIES is a non-profit, non-governmental and multi-stakeholder association founded in the United States in 1990 and TIES is the largest and oldest ecotourism organization in the world dedicated to promoting ecotourism.

the people, as well as the cultural elements and the authentic features of the area, while showing respect for the environment and tradition (Ministry of Tourism - Greek³³).” In fact, agro-tourism is seen around the world. For example, In Thailand, tourists visit traditional cotton weaving village and tea plantation as a part of cultural and agro-tourism to have experience of traditional lifestyle and rediscover traditional values. In Nacala SEZ, there are lots of places farming cashew nut. Activities which tourists visit a cashew nut farm, understand how cashew nuts grow, cultivate and have experience processing and taste cashew nuts in the farm will be potential agro-tourism activities.

Another future direction is to develop air-link with North, West and East for regional tourism development. As described current status section, there is an airport in the Nacala-Port district and Nacala SEZ is surrounded by lots of touristic places such as Pemba in the northern Mozambique, Niassa in the north-west Mozambique and Madagascar. Eco- and agro-tourism in Nacala SEZ can make complementary relationship with luxury resort in Pemba and it can be possible to develop regional tourism by linking Nacala SEZ with surrounding touristic areas by air in the future.

At last but not least important, it is necessary to keep balance between environmental sustainability and tourism development. Ensuring environmental sustainability is one of the key goals of MDGs and the World Tourism Organization (UNWTO) emphasizes that tourism should be well planned, managed and monitored to avoid possible negative cultural, environmental and social impacts. Therefore, in developing tourism in Nacala SEZ, it is important to strike a balance between environmental sustainability and tourism by well planning development strategy.

(3) Recommended Actions

From the perspectives of short-run and long-run, the followings are recommended actions to realize future direction of tourism development.

Short-term actions

- a) Conduct a survey on local tourism resources as a part of master plan study
 - Make an inventory on local tourism resources, covering natural, cultural and agro-industry resources
- b) Enhance tourism marketing
 - Promote tourism in Nacala and Ilha de Moçambique to foreigners visiting Mozambique through partnerships of private and public entities including airline, airport and hotels
 - Promote tourism in ZEEN to international hotel operators for possible location selection and land concessions

Long-term actions

- c) Study possibility in Nacala airport utilization for air-linked tourism development
 - Enhance link between Nacala and surrounding touristic places such as Pemba, Niassa reserve, lake Malawi and Madagascar through the use of Nacala airport.

2-10. Local Community Support and Development Strategy

(1) Current States

While recent achievement in economic growth and reduction of poverty has been noted by foreign donor community, there still remain a fact that large part of the country is still at poverty, and the gap between urban and rural area is likely to be widening along with further development success. In apparel to environment problems, residents at adjacent local area are the one most affected by the changes, yet at risk of adverse effect and left behind the benefit of economic success of modern capital and technology.

In the past, a corporate management was purely based on its financial performance, however, recently, Corporate Social Responsibility (CSR) has been indicated to widening its concept in responsibility, and so-called “triple bottom line”, Economy, Environment and Society must be

³³ <http://www.gnto.gr/pages.php?pageID=826&langID=2>

satisfied in order to the corporate activity to be sustainable. Under the global enterprise activity, and wide gap of economic level with local community and entering investing enterprises, the local situation has to be examined to consider harmonized acceptance to the area.

The current situation of the target area is as follows.

- Lack of basic infrastructure and education opportunities
- Limited economic activities by local business
- Limited administrative capacity at district level
- Wide gap between Nacala-Porto and Nacala-a-Velha

(2) Future Directions

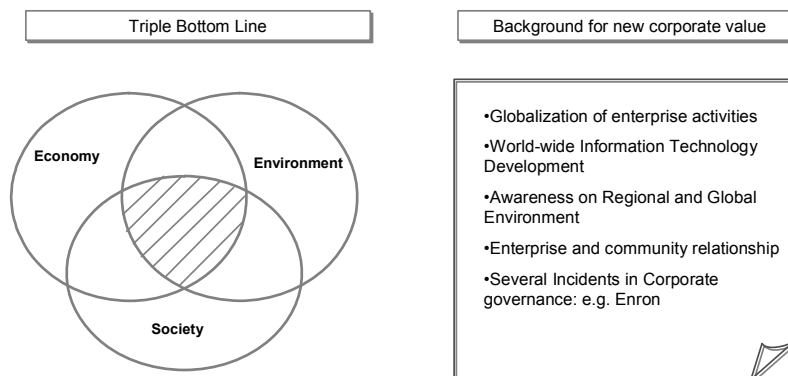
As a consequence, the followings are “wish list” from local community point of view.

- Paved roads, water supply and electricity
- Job opportunity by new investment
- Educational opportunity for career development
- Institutional set-up to over look SEZ as one area
- Division of function by Nacala-Porto and Nacala-a-Velha Districts

Understanding of CSR

Chart III-2-21

- Corporate Management in the 20th Century is purely based on Financial Performance.
- Since 1990's, questions are raised as “Is the enterprise valued only on financial profitability?”
- There are triple bottom line for any enterprise: Economy, Environment and Society
- New value measurement for enterprises is required



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(3) Recommended Actions

- Conduct base line studies of the community in the target area of ZEEN. (Short term)
 - Since the target area is quite wide and there are various communities, the base line survey of the situation is a starting point to recognize the situation and needs of the society.
 - There is already existing wide disparity between Nacala-Porto District and Nacala-a-Velha District, which might come out with different level of the situation and issues of concern.
- Basic human needs: List up needs with acute deficiencies felt by local residents. (Short term)

- The needs survey to categorize the kind of development needs to be of social and economic nature. The acute needs are for the basic human needs, which should be considered with the local government.
 - The use of foreign aid is to be considered as a financial source for the social infrastructure support activity.
- c) To establish mechanism to induce CSR function of investing enterprises to share benefit of development.
- One of the models in CSR mechanism is seen at MOZAL, in which a non-profit organization is established by funding. The use of existing NGO is another option.
 - In the area, MCA of USA is already assisting infrastructure development for water supply and sewage. Utilization of their experience can be effective way to organize the implementing body.
- d) To design concession system to involve with local community participation. (short term)
- Since one of the benefits of being SEZ is use of concession for certain regional development, it may be further studies how the system can be effectively used for development rights under concession system.
 - The local community is to be organized as for the body to consolidate interest of the various community, to which District Administration needs to be involved.
- e) To establish joint administrative function consists of stake holders to over look development of SEZ, being guided by GAZEDA. (Short term)
- Organize all concerned parties in the region together with GAZEDA and Provincial government.
 - GAZEDA might need to consider regulatory framework for such organization.

Case of CSR by MOZAL

Mozal Community Development Trust (MCDT) was created in January 2001, as a non-profit organization with purpose of contributing to the local community. The funding is being done by the share holder of MOZAL. MCDT started with US\$2.5million fund, has been raised to US\$5.0million by 2006. The main activity area of MCDT includes:

- Small scale business support
- Education support
- Health and environment, including HIV/AIDS
- Sports and cultural activities
- Social infrastructure development

MCDT activity started with building main road within the community, then schools, hospital, secondary and technical schools and facility for health care. MCDT also assist economic activities, e.g., agriculture, livestock (chicken) and handicraft (carpet) production technique.

(Source: Mr. Miyaji, Mitsubishi Corporation)

2-11 Institutional Framework for Special Economic Zone

(1) Current state

Good policy and institutional framework are one of the key components for SEZ development. International experiences suggest that good practice policy and institutional framework are streamlined and intend to differentiate SEZ from other zones based on the facilities and services provided within the SEZ rather than the fiscal incentives provided (FIAS, 2008³⁴). The following list indicates some of the key components of good policy framework for SEZ.

³⁴ FIAS(2008) "Special Economic Zones, performance, lessons learned, and implications for zone development"

Chart III-2-22 Basic Policy Framework for SEZs

	International Standard
Concept of extra-territoriality	Outside domestic customs territory; eligible for national certificates of origin; eligible to participate in national trade agreements and arrangements.
Eligibility for benefits	No minimum export requirement; manufacturers and services; foreign and local firms; expansions of existing enterprises; private developers of zones.
Foreign and local ownership	No limitations; equal treatment.
Private zone development	Clearly defined in legislation; specific zone designation criteria; eligible for full benefits; competition from government-run zones on a level playing field.
Sales to the domestic market L	Liberalized, provided on a blanket basis rather than case by case; treated as import into domestic market; subject to payment of import duties and taxes.
Purchases from domestic market	Treated as exports from domestic market; enterprises eligible for indirect exporter benefits.
Labor policies	Full consistency with International Labour Organization labor standards; specialized dispute settlement mechanism.

Source: FIAS (2008)

In Mozambique the law on investment³⁵ established in 1993 provides the definition of both IFZ and SEZ. Currently there are two types of IFZ; export processing zone type such as Beluluane Industrial Park where MOZAL is located and single factory type IFZ. IFZ operators and companies are regulated under the IFZ regulations established in 1999³⁶. IFZ status offers fiscal benefits such as exemption on importation duties on certain types of equipment and reduction of 50% on the real property transfer tax to eligible companies.

Chart III-2-23 Key components of Regulation of SEZ draft³⁷

General Provisions	Definitions, Subject, Scope of application, Declaration of areas, Permitted activities, Concession of land, Environmental impact
Regimes	Tax and customs regime Labor regime Migration regime Foreign exchange regime
Procedures for creating and licensing	Proposal for establishment of SEZ, Licenses, Management of SEZ, Certificate of SEZ operator, Approval for Licensing of SEZ Enterprises, Powers and the deadline for Licensing, Deadline for installing a SEZE, Periodic inspections, Sale and transfer of goods and merchandise, Sale of property, improvements and services
Transitional provisions	Transitional arrangements

Law on investment established definition of SEZ in 1993 whereas there has not existed institution and institutional framework to implement and operate SEZ for a long time. In 2007, GAZEDA (Economic Zone Office for Accelerated Development) was created under the Ministry of Planning and Development³⁸. GAZEDA is a government body with administrative authority for SEZ development and its missions are to promote and coordinate all actions to create, develop and manage SEZ. In relation to the regulatory framework, GAZEDA drafted regulation of SEZ which creates the first legal framework for SEZ development in Mozambique and the draft will come into

³⁵ Law No. 3/93, approved on the 24th June

³⁶ Decree No. 62/99 Of 21 September

³⁷ See Appendix B

³⁸ Decree No. 75/2007

effect after the congressional approval. The draft of SEZ regulation consists of 33 articles and the following list indicates some of the key components of the draft of SEZ regulation.

One of the key differences between the draft of SEZ regulation and IFZ regulation lies in the fact that the draft of SEZ regulation does not impose restrictions on the sales to local market whereas IFZ regulations restrict a company which possesses IFZ status to sale goods to local market in an amount equal to a maximum of 15% of the company's previous year's production volume. Compared the draft of SEZ regulation and the law on investment with the basic Policy Framework for SEZs, it can be said that the draft of regulation of SEZ generally follows international standard of SEZ policy framework in terms of foreign and local ownership and sales to and purchase from domestic market.

(2) Future Direction

It is considered that the creation of SEZ is to accelerate economic growth through integrating SEZ into domestic economy by making the most of national capital as well as foreign investment with advanced technology and management skills. In line with this thought, it is desirable that SEZ regulatory framework allows a wide range of commercial and manufacturing activities in the zone and encourages public-private partnership for the zone development.

Incentive framework is also important to make SEZ for "special" zone. In general, fiscal incentives tend to be emphasized as a vehicle to attract investors. However, according to FIAS (2008) international experiences suggest that fiscal incentives tends to be ineffective because of various reasons such as tax incentive may contribute to shift income from companies outside of the SEZ to companies SEZ by manipulating transfer price. Considering this kind of ineffectiveness of fiscal incentives, preferable incentives framework can be less relies on fiscal incentives and more emphasizes on facilities and services provided such as streamlined procedures ("One Stop Shop")

(3) Recommended Actions

In order to turn future directions into reality, the followings are recommended actions to be taken in the short-run.

- a) Elaborate SEZ regulatory framework for Nacala so as to have ZEEN attractive for investors to locate their economic activities
 - Carefully elaborate the tax and customs regime in consistent with out-of-SEZ locations, to prevent income transfer practice.
 - Establish a land use planning and infrastructure development unit in the government to ensure planning and support of offsite infrastructure provision
- b) Promote public-private partnership for development of zone.
 - Application of concession mechanism to invite private developers to develop and sale the lot within designated industrial and commercial zones.
 - The public sector initiative in off-site infrastructure including water resource, power, access road, sewage and solid waste treatment from urban areas.
 - Institutional development for ZEEN authority: With clear mandate and authority with financial and human resources to administrate and regulate SEZ regime.
- c) "One Stop Shop" for license and permits for land development, buildings, foreign and local employment within the SEZ
 - It is ideal that the authority of SEZ has offices and provides related permits within the SEZ in order to realize streamlined procedures.
 - Social services to the local community are to be charged by district administration with support of ZEEN framework for community support.

3. Recommendations for the Way Forward

3-1. Comparative Advantage of Nacala SEZ

As has been explained, Nacala Bay provides a natural deep-sea port with continuous service, free from periodical dredging nor excavation which is the case for river port, e.g. Beira Port. The width of Nacala Bay entrance channel is 800 meters and deepest water is 60 meters, and it has sufficient size for large vessels to enter the bay for future expansion of the port, which will handle various cargo import and export of raw and processed materials either in container or by bulk cargo. The hinterland of Nacala Port is connected to Nacala Corridor extended to Niassa and Tete Province, and Malawi and Zambia. Those areas are rich in resources of energy, mineral, agricultural and other resources with good potential for products for domestic as well as export market.

The infrastructure development is a key factor for an economic corridor to function as being expected. In case of Nacala Corridor, its port and railway is being developed and managed under CDN, a concession holder entity owned by government and private share holders of Mozambique, with its expansion plan of the port and rehabilitation of the railway, which are under progress of improvement in expanding container terminal of the port and purchase of new locomotives and rolling stock for the railroad. While its railway has been rehabilitated for the route Nacala to Cuamba, there still need to look for financial source for rehabilitating Cuamba-Lichinga and Cuamba-E. Lagos routes. The road between Nacala to Nampula is a good condition, while it needs to have the route beyond Nampula to be paved, which is already in the stage of detail designing with expectation to be developed by external financial assistance. The Nacala airport is currently under military control, and can be used for civil air service which is already possible within the government agreement.

3-2. Long-term Perspective

The international trade activities are already active, with import of materials such as grain, fertilizer, cement and consumption goods, which are bringing investment in processing industry in Nacala area along the Route 8. At the same time, export merchandise is expanding mainly based on resources in Nampula Province, such as cashew nuts, ground nuts, peas, sesame, banana and other agriculture products as well as mineral resources such as iron ore and other non-metal resources. (see the following two box articles to illustrate recent movement of foreign investors)

Taking a look at long-term perspective, with an extension of Nacala Corridor to the west, Niassa, Malawi, Tete and Zambia, various resources such as energy (coal and electricity), agriculture resource (tea, tobacco, cotton, coffee, sugar cane, sunflower, soybeans, etc) and mineral resources (bauxite, heavy sands, apatite, titanium) are being pointed out as with high potential for future investment. As being illustrated by the recent news on foreign investment projects, there will be further emergence of investors' interest in the resource based projects as well as distribution of merchandise through Nacala Corridor.

The Nacala SEZ is based on Mozambique government's intention to establish the first Special Economic Zone of the country with policy to encourage investment in Nacala area with special regulatory and institutional application, so as to bring impact to economic development of Northern part of Mozambique. The policy commitment to develop the Nacala SEZ with long term vision is evident through the interviews with the Study Team and comments made to the presentation sessions by officials of MPD, CPI and GAZEDA.

Recent news on investment projects related with Nacala Corridor (1)

Largest silos in Southern Africa under construction

The largest complex of grain silos in southern Africa is under construction at the northern Mozambican port of Nacala, and should be operational by March 2009, according to Fernando Couto, the Chief Executive Officer of the Northern Development Corridor (CDN), the private-led consortium that holds the lease on the Nacala port and rail system. Couto said the silos will be able to hold 60,000 tonnes. Their main purpose will be to supply landlocked Malawi, and possibly Zambia, with grain. The first shipment for the silos, containing 30, 000 tones of wheat are expected to arrive at Nacala in the first week of March.

The investor is the Tanzanian Bakhresa Group. Bakhresa's local subsidiary, Bakhresa Grain Milling (Mozambique) Ltd signed the contract for the construction of the silos in May 2007. In addition to the silos, the project, according to Bakhresa, includes the purchase of equipment for the bagging of cleaned grain, installation of a weigh bridge and the construction of a 1,000 square metre warehouse for the storage of bagged wheat. Bakhresa expects to transport 120,000 tons of wheat per year to its flour mills in Malawi. The total investment is around 15 million US dollars.

(Source: Mozambique Business - Daily Investor Intelligence by CPI, October 2008)

Recent news on investment projects related with Nacala Corridor (2)

Mining ore project kicks off next month in Nampula Province

An iron ore mining project is due to start in mid November in Lalaua, in the northern province of Nampula, according to one of the local managers of the investor, the Indian consortium Damodor Ferro, Rui Pinto. Pinto added that China is one of the guaranteed clients that will purchase the company's projected production of 20 tonnes a day. It will be used in the manufacture of underwater pipes to transport highly inflammable products such as oil, from off shore sites.

Pinto said that by mid November the work to rehabilitate and expands the 56 kilometre dirt road from the mines to the railway station of Lapala will be completed. From Lapala the ore can be taken by rail to the port of Nacala. He said that tests over an area of 24 hectares have already shown that Lalaua has a deposit that can be intensively exploited for four years, and there are signs that more such deposits can be found in the same district.

(Note: Lapala is located 130km West of Nampula on the railway route)

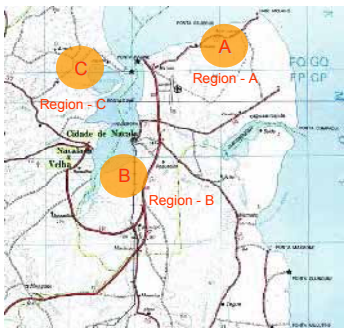
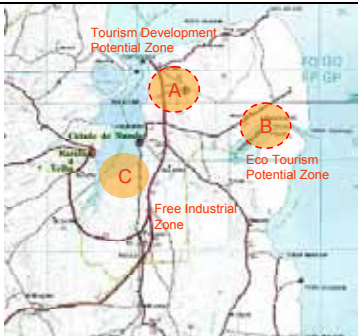
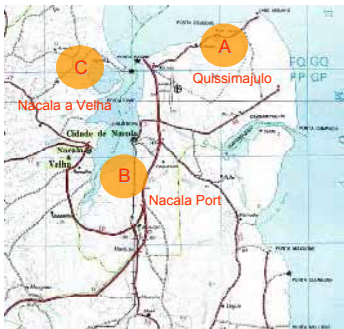
(Source: Mozambique Business - Daily Investor Intelligence by CPI, October 2008)

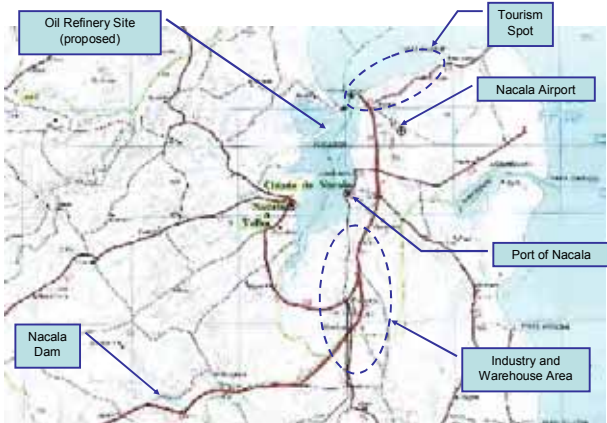
3-3. Immediate Issues of Concern

The site for the ZEEN, Nacala-Porto District and Nacala-a-Velha District, is partly urbanized but for accommodating future development of the SEZ, the area needs to have proper land use zoning plan and basic infrastructure developed. In fact the Western part of Nacala Bay, including proposed site for the oil refinery in Nacala-a-Velha, has no plan prepared, with currently undeveloped conditions. In addition to the oil refinery, there are exiting cement industry with expansion plan, banana export storage and processing facility, and the above mentioned projects are few examples of on-going projects, all by private sector investment.

There has been three kinds of studies being done for locations of industrial zone, with a proposed location of two zones in Nacala-Porto, and one zone in Nacala-a-Velha. Although none of these studies has yet to be in a form of authorized plan, those past studies for the locating industry needs to be reviewed with more immediate solution of the industrial location with environment concern. (see comparison of the studies)

It is clear the ZEEN area need a concrete plan to guide those incoming investment projects with appropriate locations, with a view to improve infrastructure service while maintaining healthy environment of the area. The planning will be able to prevent the area from disorderly development and mixed use of land use which increases risks in bringing negative impact on the environment within the area.

Studies	Locations Studied for Industrial Zone	Study Results			Remarks
Proposal by Chinese Team (Report of Mozambique Development, Feb. 2003)		Region-A Sparsely populated area, with intact nature. Good potential for up-scale residence and tourism.	Region -B Close to existing infrastructure, road, port, rail, power and water, suitable for industry zone.	Region -C Sparsely populated area with no particular infrastructure, far from Nacala City center	These three locations are proposed by Ministry of Environment for options for industrial zone. (ref page 41 of the report)
Nacala Porto City Structure Plan (Jul. 2006)		Anchor Project-A Tourism development with airport.	Anchor Project-B Area with eco-tourism potential, with local water resource	Anchor Project-C Free industrial zone	The information cited on this table is based on power point slide with limited information.
MCC Report (Dec. 2006)		Region -A The northern part of coast is valuable tourism attraction. The coastal evergreen forest is of high conservation value.	Region -B Located 2 km from Nacala town and east of Bay. Region-B is best alternative from environment perspective. (ref. page 8-6)	Region -C The small patches of mangrove forest on the coast. The area has less importance for conservation compared to Region-A.	Only environment analysis is provided based on three locations as being proposed alternatives.

Study	Current Conditions	Facts			Remarks
This Study	 <p>The map shows the Nacala area with several key locations marked. A blue box labeled 'Oil Refinery Site (proposed)' points to a location on the coast. A blue box labeled 'Tourism Spot' points to a location on the coast. A blue box labeled 'Nacala Airport' points to a location on the coast. A blue box labeled 'Port of Nacala' points to a location on the coast. A blue box labeled 'Nacala Dam' points to a location inland. A blue box labeled 'Industry and Warehouse Area' points to a location inland. A dashed blue circle highlights the area around the 'Port of Nacala' and 'Industry and Warehouse Area'.</p>	<p>The area along the Route-8 is already located with number of industry and warehouses, indicating future development area for industrial zone.</p>	<p>An oil refinery is proposed to be located at small peninsula on Nacala-a-Velha side, which will develop access road and other infrastructure.</p>	<p>The hotel and restaurant are already located at Nacala Bay entrance on Nacala-Porto side.</p>	<p>The Eastern coast area and Western inland areas are undeveloped, and currently preserved from development.</p>