Restructuring the secondary deep sea shipping ports in Madagascar

Ronhi Gabriel Ralamboarivony

World Maritime University

Follow this and additional works at: https://commons.wmu.se/pm_dissertations

Part of the Transportation Commons

Recommended Citation
https://commons.wmu.se/pm_dissertations/1

This Dissertation is brought to you courtesy of Maritime Commons. Open Access items may be downloaded for non-commercial, fair use academic purposes. No items may be hosted on another server or web site without express written permission from the World Maritime University. For more information, please contact library@wmu.se.
RESTRICTURING THE SECONDARY DEEP SEA SHIPPING PORTS IN MADAGASCAR

By

RALAMBOARIVONY RONHI GABRIEL
Madagascar

A dissertation submitted to the World Maritime University in partial fulfilment of the requirements for the award of the degree of

MASTER OF SCIENCE

in

PORT MANAGEMENT

1997

© Copyright Ralamboarivony Ronhi Gabriel, 1997
DECLARATION

I certify that all the materials in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature)

(Date)

10.02.97

Supervised by:

Name: Professor Jean Michel Mancion
Office: Port Management Courses
World Maritime University

Assessed by:

Name: Dr. Shuo Ma
Office: Port Management Courses
World Maritime University

Co-assessed by:

Name: Dr. Michael C. Ircha
Institution/Organisation: The University of New Brunswick, Canada
Visiting Professor, World Maritime University
ACKNOWLEDGEMENTS

First of all, I thank God the Almighty because without his blessing I could not have finished these studies.

For the privilege of coming to WMU, I am grateful to the Admiral Rakoto-Ramahavonjy for my nomination and to IMO for channelling an award of fellowship.

I would like to extend my warmest thanks to a certain number of people for their contributions to the completion of this work:

Dr S.Ma, our course professor, for the particular attention and the special interests he had in divising this Master of Science program, providing us with the special knowledge and skills of a port manager.

Professor J.M Mancion for sharing with us his great experience in computer programming and port operations, especially for his precious help and guidance during the preparation of this dissertation.

The various visiting professors, who shared their knowledge and invaluable experiences in the field of maritime transport.

The English lecturers without whom this step could not have been achieved, especially Inger Battista who edited this dissertation.

Mrs Razakafoniaina Vonimbolanoro at the Ministry of Transport and Meteorology who has helped me in gathering the data.

The WMU library staff, John, Susan and Cecilia without whom this work could not have been accomplished.

To my classmates and colleagues for their excellent co-operation and friendliness.

To my parents for their support and encouragement.

Finally, special appreciation and profound gratitude go to my dear wife, Voahangy, and our daughter Tamby, for their lasting correspondence, endless patience and love.
Abstract

Title of the dissertation: “Restructuring the secondary deep sea shipping ports in Madagascar.”

Degree: MSc

This dissertation attempts to study the various ways of restructuring the port sector towards more private participation. The aim is to arrive at a conclusion on what steps the government of Madagascar should follow in restructuring the secondary deep sea shipping ports of the island.

A brief overview of the economic and political situation was felt to be necessary for a better understanding of the national environment in which ports are operating in Madagascar. The new economic policy elaborated in close collaboration with the International financial institutions of Bretton Woods will be discussed.

It is notorious that international economy and the shipping industry have gone through tremendous change from what they were decades ago. This changing environment has had great impacts on ports and some of the aspects of these new patterns will be passed under review in this paper.

Despite the more active and decisive role of ports in international trade, the ports in Madagascar are not following the path but are out of step. The ports are still managed under archaic regulations, as well as out of date management systems. This situation has a great impact on the national economy as a whole. This is discussed in details in this study.

Port privatisation is one of the remedies that port experts and economists have found to overcome this kind of shortcomings. Various alternatives have been tried and found to be successful world-wide. These are going to be discussed although
this paper cannot pretend to cover them all in details. Nevertheless, the author believes that the most common practices are touched upon by the study.

Madagascar is now well equipped with the necessary legislation and has an overall organisation to conduct the privatisation process. This new privatisation strategy is described and analysed in this paper. The author make proposals on how to handle the port restructuring process in Madagascar.
# TABLE OF CONTENTS

- Declaration  
- Acknowledgements  
- Abstract  
- Table of contents  
- List of tables  
- List of figures  
- List of abbreviations

## Introduction

1. Basic facts about Madagascar
   1.1 Generalities  
   1.1.1 Geography  
   1.1.2 Politics  
   1.2 The Economy
      1.2.1 Main economic sectors
         1.2.1.1 The rural sector  
         1.2.1.2 The industrial sector  
         1.2.1.3 Mining and energy  
         1.2.1.4 Transport and tourism  
   1.3 Foreign trade  
   1.4 Stimulating the economy: necessity and constraints
      1.4.1 The World Bank analysis  
      1.4.2 The DCPE (Document Cadre de Politique Economique)
         1.4.2.1 Macro economic framing  
         1.4.2.2 Development of the private sector  
         1.4.2.3 Strategy for the maritime transport sector  
   1.5 Conclusion

2. Challenge facing the port in today's international economy
   2.1 A problematic port business
   2.1.1 The global environment of port
      2.1.1.1 New patterns in international trade and the world economy
      2.1.1.2 Technological innovations in shipping
   2.1.2 The impact of the new world trade pattern and the technology development in ports
4.1.8 Complying with the conditions of International Financial Institutions 67
4.2 Main types of private involvement 67
4.2.1 Partial privatisation 67
4.2.2 Full privatisation 68
4.3 Arguments opposed to port privatisation 69
4.3.1 Privatisation versus public service functions 69
4.3.2 The risk of shifting from a public to a private monopoly 69
4.3.3 Loss of employment 70
4.3.4 Fear of closure 70
4.3.5 Loss of control from the government side 71
4.4 Restructuring methods and forms 72
4.4.1 Commercialisation 72
4.4.2 Deregulation 73
4.4.3 Sale of assets 74
4.4.4 Corporatisation 75
4.4.5 Concession contract, build operate transfer (BOT) 76
4.4.6 Leasing 77
4.4.7 Management contract- service contracts 77
4.4.8 Joint Ventures 77
4.5 Conclusion 78

5 Perspective for port restructuring in Madagascar 79
5.1 Privatisation in Madagascar 80
5.1.1 Generalities 80
5.1.2 Background of privatisation 81
5.1.3 Legal framework of privatisation in Madagascar 81
5.1.3.1 The objectives of the laws on privatisation 83
5.1.3.2 The privatisation operation 83
5.1.3.3 Transitory measures 84
5.1.4 The organs of privatisation 84
5.1.4.1 The Privatisation Committee 84
5.1.4.2 The Technical Secretariat 85
5.1.5 The Privatisation Funds (FPP) and the Social Funds and Support to the Regional development (FSADR) 85
5.1.5.1 The Privatisation fund 85
5.1.5.2 The Social fund and support for the regional development 86
5.2 Towards private participation in ports 86
5.2.1 Basic conditions 88
5.2.1.1 Need for political commitment and strong leadership 88
5.2.1.2 Need for clear objectives and goals 88
5.2.1.3 Pre-privatisation actions 89
5.2.1.4 Need for new legislation 90
5.2.1.5 Need for good valuation of the port business 90
5.2.1.6 Preparing the human resources 91
5.2.2 Phases of port privatisation 92
5.2.2.1 The orientation phase 92

viii
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>World fleet size by principal types of vessel, 1992-1995</td>
<td>24</td>
</tr>
<tr>
<td>II</td>
<td>Evolution of containerisation</td>
<td>26</td>
</tr>
<tr>
<td>III</td>
<td>Warehouse facilities in the port of Antsiranana</td>
<td>47</td>
</tr>
<tr>
<td>IV</td>
<td>Current inventory of cargo handling equipment in the port of Antsiranana</td>
<td>48</td>
</tr>
<tr>
<td>V</td>
<td>Extracts from the draft of the BAP (Port annex Budget) in 1996</td>
<td>51</td>
</tr>
<tr>
<td>VI</td>
<td>Cargo traffic in the port of Antsiranana, 1993-1995</td>
<td>53</td>
</tr>
<tr>
<td>VII</td>
<td>Trends calculation of the cargo traffic in the port of Antsiranana</td>
<td>54</td>
</tr>
<tr>
<td>VIII</td>
<td>Forecasted values of cargo towards 2005, port of Antsiranana</td>
<td>54</td>
</tr>
<tr>
<td>IX</td>
<td>Calculation of the average stowage factor, port of Antsiranana</td>
<td>57</td>
</tr>
</tbody>
</table>
# LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAP</td>
<td>Ports' Annex Budget</td>
</tr>
<tr>
<td>BIMCO</td>
<td>The Baltic and International Maritime Council</td>
</tr>
<tr>
<td>BOT</td>
<td>Build operate transfer</td>
</tr>
<tr>
<td>CNP</td>
<td>National Port Council</td>
</tr>
<tr>
<td>DCPE</td>
<td>Framework document of the Malagasy economic policy.</td>
</tr>
<tr>
<td>Dwt</td>
<td>Dead weight ton</td>
</tr>
<tr>
<td>EDI</td>
<td>Electronic data interchange</td>
</tr>
<tr>
<td>ESCAP</td>
<td>United nations Economic and Social Commission for Asia and the Pacific</td>
</tr>
<tr>
<td>FEL</td>
<td>Front end loader</td>
</tr>
<tr>
<td>FLT</td>
<td>Fork lift truck</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product</td>
</tr>
<tr>
<td>GEM</td>
<td>Association of Malagasy Enterprises</td>
</tr>
<tr>
<td>IAPH</td>
<td>International Association of Ports and Harbours</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>IPP</td>
<td>Improving Port Performance</td>
</tr>
<tr>
<td>MEBO</td>
<td>Management/Employee buy-out</td>
</tr>
<tr>
<td>MGF</td>
<td>Malagasy francs</td>
</tr>
<tr>
<td>MTM</td>
<td>Ministry of Transport and Meteorology</td>
</tr>
<tr>
<td>RoRo</td>
<td>Roll on Roll off</td>
</tr>
<tr>
<td>TEU</td>
<td>Twenty equivalent unit</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>USD</td>
<td>United States dollar</td>
</tr>
<tr>
<td>WB</td>
<td>World Bank</td>
</tr>
</tbody>
</table>
INTRODUCTION

1. The port within a new environment

During the past few years, the world economy has been through a tremendous change. Nowadays, the new driving force of the international economy is liberalisation and globalisation. The direct result of these new concepts is the emergence of a new trade pattern. Effectively, the centres of production are no longer the privilege of European or American industrialised countries but spread out in new areas. The world witnessed the birth of new cradles of production. Thus, there has been an acceleration of industrial activities in new regions, such as the Far East (Japan, Korea, Taiwan, China, Singapore and Hong-Kong). The principles which led to this new trade pattern are based on the questions, when and where the production of the goods should take place and how they are going to be moved and delivered to the final consumers with the lowest overall costs possible.

A completely new type of world trade has thus emerged and ports as well as shipping industries have been directly affected by this fast changing environment. International transport of which the port is one link in the chain has undergone a tremendous change to keep pace with the new orientation. This new situation has forced shipping and port industries to seek greater efficiency by changing their structure and institutional framework as well as their management system. However, the necessary development as far as seaports are concerned has not reached the same result nor being performed with the same method in all parts of the world. Furthermore, there are many regions where ports are still striving for the appropriate way of achieving the change.
In many countries, especially in developing countries, ports are managed by the government. They are largely influenced by public administration and political matters. This attitude is the consequence of old thinking which considered the ports as a simple interface between the hinterland and the sea and from which cargoes for export or import transit. The ports were not seen as a commercial activity but simply as administrative entities serving public interests. However, time has changed so the old fashioned way of thinking has been proved to be an obstacle for ports to adapt themselves to the new environment in which competitiveness and efficiency became the key factors. Therefore, to satisfy the requirements of this new environment, ports have started to undergo various institutional reforms. The aims of these reforms are to give to the port managers freedom and responsibility based on commercial principles, (UNCTAD, 1992, p10).

In Madagascar, port restructuring has been performed in a piecemeal manner and ports are now still under considerable influence of the government. Apart from the port of Toamasina, which is run autonomously, all other ports are fully managed by the government through the so called BAP (Annex Budget of Ports).

Nevertheless, as the saying goes, better late than never, restructuring is now under consideration in the DCPE (Document Cadre de Politique Economique) which is the general framework of the economic policy. This document mentions clearly the intention of the government to restructure the ports and to seek more private participation in the provisions of port services.

2. The ports in the national economy

Ports hold a key role in the national economy and the development strategy of a country. Trade promotion has effectively more and more been adopted by most countries as a national economic policy. Poor port performance cannot be accepted any longer and governments are aware that inefficiency that leads to a prohibitive
costs constitutes a real factor of hindrance to the development of trade; thereby the national economy as a whole (UNCTAD, 1992, p4). The traditional port activities, such as the use of facilities by the customers, and the services offered, give place to the payment of charges, which constitute a valuable source of revenue. But, additional to these traditional activities modern ports should play a lot more active role in the national economy. Ports in their latest development have become a complex industrial point. The new generation of ports has effectively developed from a simple transport centre to a logistic platform. Obviously the traditional services provided by a port, such as cargo handling and ship services are still constituting the backbone of the port activities. However, the innovation lies in the establishment of genuine industrial services, and the creation of a real logistic and distribution system. Therefore, ports are bound to become the keystone of the whole economy. Effectively, Professor Shuo Ma pointed out (1996, p12) that “Ports are now the catalyst that initiates a wide range of commercial actions to stimulate the country’s economy and trade”.

3. The objectives and scope of the dissertation

As stated earlier, the government is now committed to privatise the ports. Moreover, Madagascar is really going to start from scratch in this field of port privatisation. Therefore, the objective of this dissertation is to bring up the possible restructuring method that will help the Malagasy ports to achieve this change. This method shall be in line with the perspective of their role as a boost for the national economy, and to attract more trade, which in turn will contribute to the overall development of the country.

Among the seventeen ports around the island, the main international port of Toamasina is managed commercially by a corporate company. The case of the port of Toamasina will not be the principal concern of this dissertation but will be taken as a reference as need be. Thereby, this study will focus on the state owned international secondary ports, namely Antsiranana, Mahajanga and Toliary.
These ports are presently undergoing a feasibility study in the perspective of restructuring. They are today administered under the port regulations adopted in 1968/69, which put them under the supervision of the Ministry of Transport. The current situation of these ports is very alarming, and they are far from being the initiator of the economic development of the country, even though they are bringing a valuable contribution.

Although they have been existing for many decades, and even if, recently, they were receiving help from foreign countries for rehabilitation, these ports have not shown any serious development as far as management method is concerned. The rehabilitation was more directed to the equipment and facilities than to the management side. Thus, restructuring is more than necessary, if the government does not want them to be a burden for the public budget in order to make them efficient and profitable. Effectively, it is not rare to find examples of public enterprises being subsidised in order to continue to function. Most of the time the government is obliged to keep them working due to the social role they are playing in the place where they are set up as well as on the national scale. Obviously, ports are very sensitive economically, socially and politically.

4. Research difficulties

This paper work is done while studies are said to be carried out in the field. It would have been very beneficial for this dissertation to include the consultants findings in order to be able to appraise the situation. On the other hand, it would be more fruitful to bring up different views from different angles of study. However, this study may suffer from the lack of immersion into the ports which are studied in this dissertation. The reality of the difficulties lies in the fact that it would need a lot more time and a physical presence in these ports to get a complete and thorough understanding of the actual situation. Another problem is the reliability of the statistics available and the fully usefulness of them. In fact, the way of keeping
record of those statistics is largely different from port to port despite the directive of the Ministry in this respect. The contact with the ports themselves was very complicated. This paper will not pretend to have the panacea of the port restructuring study in Madagascar but tries to give the basic substance of the question which will certainly nurture the idea of further investigations.

5. Dissertation structure

In chapter one, the author tries to give an overview of the economic situation and trade pattern as well as the political environment of the country in recent years. This will help the reader to understand the backdrop of the port activities. The second chapter will put the accent on where ports stand in today's international economy. Emphasis will be put on the concepts of efficiency and competitiveness of ports. The third chapter is intended to give an overview of the port activities in Madagascar. A case study of the port of Antsiranana (Diego Suarez) will be made in order to see what kind of port now exists in Madagascar other than Toamasina, which is known as the main port in Madagascar. After that, the various alternatives of restructuring methods will be discussed in chapter four. Finally, chapter five will focus on privatisation and the perspective of port restructuring in Madagascar.
CHAPTER 1

BASIC FACTS ABOUT MADAGASCAR

This chapter intends to give an overview of the basic economic and trade issues in Madagascar. The information given hereafter will provide a better understanding of the backdrop of port activities in Madagascar.

1.1 Generalities

The choice of the starting point of this analysis raises the crucial question of the period that should be considered to arrive at a meaningful result from any study related to any type of economic activities in Madagascar. To be clearer, it should be born in mind that this country has been through a turning point of its political and economical history at the beginning of the 90s. Thus, according to the author's opinion it would be anachronistic to come back further than this particular period in this study.

1.1.1 Geography

Madagascar is the fourth largest Island in the world after Greenland, the New Guinea and Borneo. The total area is 587,040 km\(^2\) with 4,828 km of coastline. Madagascar claims 150 nautical miles of exclusive fishing zone, 200 nautical miles of EEZ and 12 Nautical miles of territorial sea. The total Maritime Zone is about 2 million km\(^2\) wide.
The definition of the climate is rather complicated due to the complexity of the relief and the fact that Madagascar is stretched out on both sides of the Tropic of Capricorn. Madagascar's climate is dominated by two main seasons: the winter season influenced by trade winds from May to September and the summer with the monsoon, which bring rains from November to April. The eastern part of the country is warm and wet whereas the western part is dry. Every year Madagascar suffers from the passage of cyclones and heavy storms, from November to March, which cause considerable damages to its agriculture products.

Madagascar has lost an important part of its forest, which covers only 10% of the total surface area. However, the country has kept the most valuable species within 60,000 km² of forest. The submarine fauna is also extremely rich.

The last population census of 1993 gives a total number of 12,092,157 of which 50.4% are female and 49.6% male. The average annual growth rate was about 2.8% during the period 1975-1993. With this the population will double within less than 25 years. The average density in 1993 was about 21 inhabitants/km². Half of the population is under the age of 18 and the average age of the whole is estimated to be 22.2 years. The structure of the population is typical of a country with high fertility and mortality rate.

1.1.2 Politics

The beginning of the 90s is quite an important period for Madagascar. At this time the wind of change has blown on the Island and a large majority of the population have manifested their wish to change the political regime. After 16 years of power the regime failed to bring up the level of life to the minimum standards required by the population, even though the growth rate of the economy reached at that time around 4% of the GDP (Gross Domestic Product).
The passage to the new political regime has been made with quite a lot of difficulties, due to the ill-will of a number of politicians but mostly due to the absence of a real government program. This situation has led to a complete slowing down of the economy. The political chaos lasted about two years before the new structures defined by the new constitution of the Third Republic were finally put in place. Unfortunately, this passage to the Third Republic has not brought straight forward the answer to the population expectations. Madagascar's situation was not as favourable as everybody had hoped. The government on which the population put their hope for a brighter future failed to find the way to start the change and observed a wait and see attitude. Moreover, no government was able to last more than a few months. Therefore, the country witnessed a numerous shuffling of the government's members or even change of Prime Minister. During four years Madagascar has known three Prime Ministers. This political instability worsened the economical situation which has already reached a very critical point. All observers concluded that the "Large Island" is moving away from development. Since December 1991, Madagascar was classified among the less advanced countries i.e. one of the poorest countries in the world.

Despite this visible instability, the successive governments continued to carry out negotiations with the International Financial Institution of Bretton Woods to get the country back on the track of economic reconstruction. These negotiations were conducted in a very difficult conditions due to the weaknesses of the Malagasy economy seriously eroded by 18 months of total blockages. Moreover, these negotiations were rendered very difficult since the new requirements of the IMF (International Monetary Fund) and the WB (World Bank) have become more demanding. Effectively, the previous terms of the negotiations in the end of the 80s were simply lost because of the political unrest prevailing. Thus, the negotiations were restarted from a new deal.

To conclude, the politics in Madagascar at the beginning of the 90s were characterised by a lot of hesitancy and indecision as far as the procedures to be
followed to deal with the economy are concerned. This wait and see attitude had a very bad impact on the economy of the country.

1.2 The Economy

'Madagascar has real economic potentials to get out of this economic stagnation'. This sentence has been expressed so many times by all categories of people. Nevertheless, for many Malagasy citizens, it may become wishful thinking since the results are taking a long time to come.

1.2.1 Main economic sectors

For many years the Malagasy economy has been dominated by the agricultural sector. However, the government has been giving increasing importance to the industrial and the service sectors.

1.2.1.1 The rural sector

The rural economy produces 80% of Madagascar’s export earnings and supplies most of the raw materials that the industry needs (Tudor, 1997, p569). In 1994 the agricultural sector accounted for 32.6% of the GDP and engaged approximately 74.5% of the country’s labour force BDE (Banque de données de l'Etat, Antananarivo). Madagascar’s main export crops are coffee, vanilla and cloves. During the previous decade, coffee represented 24% of the total export earnings and called up 25% of the working population. Thus, any change in the price of coffee in the international market greatly influences the country’s income. In 1989 for instance the collapsing of the ICO (International Coffee Organisation) agreement, which in turn provoked the decline of prices, led to the loss in export revenues of more than USD 20 million. In 1991 the coffee revenues represented only 12% of the total exports, which is 50% less than a few years before.
During the campaign 1996-97 Madagascar was the world largest exporter of vanilla with 1200 tonnes, representing about 15% of the export earnings. However, the export of vanilla is not very important in terms of volume. This can be explained by the fact that the value of the vanilla is determined by its scarcity. Therefore, the government had to operate a planned production in order not to have an overproduction, which may lower the price in the international market.

The production of cloves plays also an important role in the external trade of the country. It accounts for about one quarter of the export earnings. But cloves suffer very much from the law of the market since the prices are increasingly depressing, owing to the emergence of new exporters like Indonesia and Brazil. There is also the impact of the liberalisation of the market in 1987, which caused an overproduction and excess of cloves on the market.

Madagascar is also exporting quite a small quantity of pepper, ylang ylang, seed cotton, sugar cane, sisal and cocoa.

At present prawn fishing has expanded and rivalling these traditional sources of foreign currency. Lobsters and shrimps are also exported and as this sector has a very bright future, a number of economic operators have become attracted by the business. Effectively, there are now three major processing plants in the Island, located in the north-west, west and south-west.

Madagascar possesses about 11 million heads of zebu cattle. However, they do not give much support to the economy because this sector does not have the minimum acceptable exploitation facilities. As matter of fact the beef sector is undeveloped due to the failure to achieve international export standards. Moreover, zebu cattle are regarded as an indicator of wealth rather than as source of revenue.
1.2.1.2 The industrial sector

The industry contributed only 13% of Madagascar's GDP in 1990 and engaged only around 3% of the working population. It consists mainly of the processing of agricultural products and textile manufacturing. The development of the industrial sector since the end of the 80's is dominated by the commitment of the government to encourage domestic and foreign private investment in the activities other than the ones which are normally devoted to the government. A number of actions have been taken to facilitate the establishment of more industrial free zones, such as relaxing rules regarding foreign exchange and tax incentives.

Between May 1990 and December 1994, 99 new enterprises funded by overseas capital were established. Despite these actions taken to heal the industrial sector, the outcome is still very low. Nevertheless, according to the GEM (Groupement des Entreprises de Madagascar), the industrial GDP has been declining at an annual rate of 1.2% in 1980-1990 and in 1996 the growth rate was only 1.1%.

1.2.1.3 Mining and energy

Madagascar has a fairly large deposit of various minerals. The exploitation is however rather difficult and not cost effective because they are in most of the cases located in remote areas. Nevertheless, chromate, graphite and mica are all exported as well as small quantities of semiprecious stones. The chromate output climbed at 200,000 metric tons per year in the early 70's but declined to 129,000 tons in 1991. Graphite output is low, 13,500 tons in 1991 as well as that of the mica which was only 600 tons in 1988. Madagascar has a large gold deposit but the official production has been very low, which does not reflected the reality. In effect, a lot of illicit traffic exists in this sector and a large quantity of gold is sold on the black market. The government is now trying to set up a system of control but it is not yet fully operational.
The energy in Madagascar is dominated by hydroelectric power and petroleum products. The import of petroleum absorbs around 14% of the country's total export income. Despite the existence of seven hydroelectric stations, supplying more than 2/3 of the electricity demand, the output represents only the equivalent of about 90,000 tons of oil. The total import of oil in 1991 was 340,000 tons.

The refinery of Toamasina on the east coast, which was recently privatised, produces about 350,000 tons of products a year and exports about 70,000 to 80,000 tons.

1.2.1.4 Transport and tourism

Road network and railways are insufficiently developed in the island if considering the land surface. This is one of the reasons of stagnation of the economy. At present there are around 35,000 km of classified roads, of which 8,539 km are main roads and 18,382 km are secondary roads. Despite the attention given by the government in the development of the road system, only 5,352 km are paved, 15% of the total. The development of the road network is hampered by the lack of maintenance of existing infrastructure. Thus, instead of building new portions the fund is mostly spent on the rehabilitation of the existing ones; although they have not yet reach the normal pay-off that they should give. At the end of the 80's for example, USD144 million was used to rehabilitate 4,781 km of existing roads.

The Malagasy railway system is very old and poorly maintained. There are in total 1,095 km of railway in the Island. Three lines in the east, linking the capital city to the main international port of Toamasina and the main rice producer region of the Alaotra Lake. One line is serving the capital city and the so called water city which is a high tourism site in the centre part of the country. The fourth line links the province city of Fianarantsoa to Manakara port on the South east coast. The quantity of goods transported by railway is stagnating around 200 million tons from
1985 to 1990 and dropped dramatically in 1994 due to the destruction of the railway linking Antananarivo with Toamasina by the tropical storm Geralda early this year. The air transport network consists of around 100 practicable airfields. The airport system is run by a corporate company called ADEMA (Aéroports de Madagascar). The main national airline company is able to serve almost all parts of the Island and it is two thirds owned by the government and the remaining by the French airline company Air France.

With regards to maritime transport, Madagascar has 18 registered ports around the 5000 km of coastline. Apart from Toamasina, all ports are managed directly by the government through the Ministry of Transport.

1.3 Foreign trade

Helen Chapin Metz of the Federal Research Division Library of the United States in his book "Indian Ocean five Island Countries" gives a clear picture of the Malagasy foreign trade patterns. In 1992, more than 80% of the island's total exports were directed to western countries, representing USD311 million out of USD 3,383.5 million of the total export value. The main destinations of the goods were France, the United states, Germany and Japan.

On the contrary only 51% of the country's total imports come from the West. The total import in 1992 was USD 614.1 million and France remains the main partner from the west contributing 29.9% of the total. Germany and Japan are respectively responsible for 4.3% and 33.9% and the United States provided 1.1%.

The trade with developing countries is characterised by the increase in percentage of goods exported to and imported from them. In 1980, Madagascar exported 14.3% of the total exports to developing countries. This figure rose to 18.8 per cent in 1992. With regards to the import the figure expanded from USD55 million in 1980 to USD301 million in 1992. Conversely to the exports pattern the imports from the
southern countries come mostly from Asia and the Middle East which accounted for respectively 15.5% and 8.5% of the total. African countries provided only 6.1% and South America 2.1% of the trade.

One of the biggest problems of Madagascar is the huge deficit of the foreign trade balance. In 1992 the deficit is around 62% of the total exports.

1.4 Stimulating the economy: necessity and constraints

In 1993, the World Bank in a study entitled "Madagascar note de stratégie économique" examined the steps that must be taken and the constraints to be overcome in order to have a beginning of an economic boom. They proposed as well the necessary reforms to be undertaken in the various economic sectors. The goal is according to them to reach at least 6% of growth rate to get the result of recovering the economic level of 1971 by the year 2003 (Huc, 1993, p2771). The outcome of this study was taken into account in many respects by the government in the new economic policy defined in the so called DCPE, which is the document containing the economic policy for the period 1996-1999.

1.4.1 The World Bank analysis

The example given by the small island of Mauritius and some countries in the Far East, such as Malaysia, Korea, Indonesia and Thailand showed that it is possible to reach this 6% growth rate.

The successes of these countries have common characteristics: rigorous macro economic policy, productive labour, more initiative and freedom for private investment and more incentives for foreign investors, and boost of the manufacturing sector.
The potentialities in agricultural, industrial, and tourism activities will allow Madagascar to reach these results if the necessary adjustments are made. Effectively, according to the study a full exploitation of these potentialities would lead to a 4% of growth for the agricultural sector, 10% for the industry and 6% for the tourism and services.

The development of the agricultural sector will depend on the ability of the country to reorganise the traditional cash crops. Moreover the production of food crops should also be done. The production of coffee, vanilla, cloves and cotton should be one of the priorities of the government because they constitute a real possibility of boosting the country’s income under the condition that they are reorganised and the export liberalised. Regarding the industry, the will of the government to expand the export processing zones should be accentuated as well as the incentives to attract foreign investors.

The tourism sector is yet far from the actual possibilities. But if the sea side potentiality and the cultural tourism are fully exploited, Madagascar should be able to receive around 150,000 visitors by the year 2000. This again supposes the opening up of the Malagasy air space and a well defined development program of the most interesting sites.

A W.B study underlined that to have a sustainable growth there must be an accumulation of productive capital which will increase the investment rate from 11% of the GDP in 1991 to about 20% by the year 2000. Private investment which represents 33% of the national investment should increase to the rate of 60% at the beginning of the next century.

The investment in human resources should be one of the priorities in order to have qualified and healthy labour force. In the 10 incoming years, efforts should be directed to the amelioration of the transport system, telecommunications, electrification and urban development.
The necessary condition for these results to happen is the adoption of the following reforms:

1- Macro economic stability which implies moderate inflation rate, stable exchange rate, availability of currency and tightening up of the government credits.

2- Sound external exchange and financial policy, liberalisation of import procedures and a sound functioning of the financial institutions.

3- Lifting of all kinds of barriers to the economic activities.

4- Recognition of the necessity of privatisation and disengagement of public sector from the productive sectors.

5- Improvement of the educational system and the health sector.

In order to achieve this challenge the government may come across a number of constraints. They have to find a quick means to avoid the overwhelming of the public administration on the economic activities. In fact it is commonly agreed that the administration has never been capable of working in a liberalised environment. Ministries are for example controlling all investment operations, all import and exports operations belonging to the private sector.

Until recently, the legal environment was not favourable for private initiative because of the bottlenecks they created during the procedures of setting up of a business or even during the transactions or the ordinary management afterwards. However, balance of payment deficit and the scarcity of national capital are the most crucial problems facing the development.

1.4.2 The DCPE (Document Cadre de Politique Economique)

The DCPE contains the new commitments of the government to establish a solid base for the economic development. It was prepared by the government in collaboration with the W.B and the I.M.F and constitutes the frame of the economic policy of the country for the period of 1996-1999. The new orientation is clearly directed to the adoption of a market oriented economy, the development of the private sector, the research of foreign investments, the withdrawal of the public
administration from the production sector and a more efficient fight against poverty. Following are some interesting extracts from this document.

1.4.2.1 Macro economic framing

The growth is based particularly on private investment and aims at the reduction of the inflation rate to 3% at the end of 1999. The GDP growth rate is estimated to be more than 4% by 1999. The total investment should increase to 10% of the GDP in 1996 and up to 15% in 1999 while the internal savings will grow little faster than the investment. The balance of payment deficit will decrease to less than 7% of the GDP in 1999. The export volume is estimated to increase on average 5% during the period 1996-1999.

1.4.2.2 Development of the private sector

The reform of the business environment is mainly related to the regulations and the tax constraints which are hindering the private sector and the exporters outside the free industrial zones. It will provide digest legislation and eliminate the monopolistic practice of the public enterprises. In 1996 the property law was already made more flexible with the extension of the property leasing up to 99 years and the government pledge to finish the transaction within the period not exceeding two months. The leasing can also be mortgaged and can be subject to a cession after the termination of the investment.

The monopolies of the public enterprise in the field of energy, hydrocarbon, telecommunications and air transport are removed.

In 1997 the registration procedures of companies are streamlined and the cost reduced. A better legislation and more efficient institution will be established to fight against unfair competition practices. The monopolies in the domain of cabotage and ports are also eliminated.
In definitive the government is withdrawing from the public enterprises according to efficient methods in order to reduce their budget burden, to increase their productivity and to foster private investment.

1.4.2.3 Strategy for the maritime transport sector

Knowing that economic development cannot be done without a particular action in favour of the maritime transport, the government is engaged in privatising this sector. The DCPE points out that in order to increase the productivity of the existing installations the different functions of the ports are separated and the government is working towards the opening of the management of ports, cargo handling operations to the private sector. Maritime transport as a whole will be liberalised.

1.5 Conclusion

After this brief overview of the current political and economical situation of Madagascar, the author would like to conclude that the large island is now striving to recover the way of development after many years of crossing the desert. However, the economic take-off cannot be obtained without many sacrifices and a good will to work. This statement is not only directed towards the government but mostly to the whole population. In effect, the development largely depends on the ability of the population to perform efficiently their part of the duties and the government should only be considered as the structure organising and harmonising the cogs of the economic activities. The government should be the catalyst, which works for a better synergy between the different actors of the economy. As Madagascar is an island, its foreign trade naturally depends considerably on maritime transport. Effectively, more than 80% of this trade is handled by the ports. But that is where the shoe pinches. The Malagasy ports are far from meeting the requirements of a healthy economy. Therefore, if the country is expecting a boom of its economy and especially of its manufacturing industries, it is wiser to consider a
better and more efficient port system. Otherwise the situation will remain unfavourable to the hoped development and the plow will be again in front of the ox.

Port development will naturally foster industrial development and thus foreign trade is a good reason for the government to make an effort to develop this sector. The government has made a pledge to reform the port management system. It goes without saying that this commitment will encourage the investors and the realisation of such engagement will be the cornerstone of the future development of Madagascar.
CHAPTER 2

CHALLENGE FACING THE PORT IN TODAY’S INTERNATIONAL ECONOMY

Restructuring, in whatever guise, is the dominant issue in the port industry today. The driving force of this phenomenon can vary from country to country but the main objective is to make the port in tune with market requirements and to review its position vis-à-vis its global environment. Effectively, this environment is rapidly changing and permanently bringing up more complicated market situations, new technology, frequent shifts of customer preferences, more intensive capital investment to keep pace with the competitors (Ircha, 1989). Therefore, port restructuring is neither an isolated process which is done for the sake of change nor a manna from heaven but should be the reflect of the circumstances surrounding the port itself and the port objectives and options with respect to this changing and dynamic environment.

Thus, restructuring requires a thorough analysis of the local, regional and international market environment in which the port operates and obviously the particular problems that the port is facing internally and externally regarding the structural, financial and operational patterns. The choice of a suitable restructuring method and strategy depends largely upon the result of such analysis in order to avoid as much as possible any regrettable error in the decision making process.

The present chapter is intended to cover those issues, which are logically the departure point of any restructuring process.
2.1 A problematic port business

In today's world, running a port business is very complicated and requires particular management know-how and highly skilled port managers. Effectively, as stated earlier ports are facing an onslaught of change so that without a thorough and permanent environmental scanning they will fail to respond to the need of the market and will be rapidly phased out by the competitors (Ircha, 1989, p13).

Port business is also becoming a more intensive capital investment due to technological developments. Ships are becoming increasingly bigger and specialised; sophisticated cargo handling methods are required to handle cargoes which are now shipped in special types of packaging. The telecommunications system as well has been developed tremendously.

As competition is increasingly fierce between ports, the performance is also taking an important place in the whole picture. This is one of the focal points of every port since many countries have based their economic development on the expansion of foreign trade. Therefore, inefficient ports cannot be acceptable any more for those countries because they are hindering the competitiveness of the country's goods in the international market.

2.1.1 The global environment of port

In its Port Marketing and the challenge of the third generation port, the UNCTAD threw into relief the new environment in which the ports are today called to operate. This UNCTAD paper gives a clear analysis and understanding of the issue.

Having a close and permanent look at the environment and the evolution of the market is one of the main tasks of port managers. In his Turbulent Port Environment, Adaptative strategies, M.C Ircha evokes the suggestions made by Peter Drucker regarding this particular question. According to the latter "managers
cannot assume that tomorrow will be the extension of today, on contrary they must
manage for change; change alike as an opportunity and a threat". (Ircha,1989, p13)

2.1.1.1 New patterns in international trade and the world economy

Until recently the cradle of international production and trade has always been in
North America and in North Western Europe. This old system is now completely
gone. Effectively, during the past decades the world has witnessed the development
of new centres of production brought about by the new concepts of liberalisation
and globalisation. It goes without saying that this new situation has a tremendous
effect on the maritime industry, which is still responsible for moving 90% of the
world international trade.

2.1.1.1.1 Liberalisation

During the past decade it has been felt by many schools of thoughts that
governments have considerable influence in economic activities provoking more
harm than good things to the national economy. In his "Rethinking maritime
privatisation in Africa" (1993, pp 31-49), Okechukwuc iheduru identified a number
schools of thoughts regarding this issue. It is clearly pointed out that the
government which is unable to generate profit, tends to be inefficient and ridden
with corruption and mismanagement.

According to another school, the government as a manager cannot succeed
because it lacks the incentive arguments.

Another category argues that the government should withdraw from running a
business for sound fiscal benefits. They advocate that divestiture reduces
government expenditure and will allow the government to restore the budgetary
imbalance. Moreover, the sale of assets to private investors will drain revenues for
the government that can be used to finance the current expenditure or to write down
the government's debt. Thus, many people think that the divestiture will increase the efficiency of the enterprise, which will result in more tax revenues so that it will in turn generate more income to the government budget. The liberalisation process has been done through various manners all over the world but all disciples of the concept are aiming at the reduction of the government influence on the economy and they are even trying to eliminate this involvement.

2.1.1.1.2 Globalisation

The liberalisation policy has acted as a catalyst to the globalisation of the world economy. In other words, it has created a borderless economic space available to producers and investors. The keystone of this globalisation is that it has been set in a process where producers and investors could behave as if the world economy consisted of a single market and production area with a regional or national subsectors. (UNCTAD, 1996, p5)

Producers and investors are not the only players in the globalised economy but more important are also the consumers. After all they are the key elements of the whole system. Nowadays, all types of goods can be moved and distributed to the market no matter whether it is high or low value items. Moreover, the development and circulation of information allow the consumers to chose the goods that fit their purchasing power. Hence, producers are bound to compete between themselves, which forces them to consider the lowest cost possible in the production as well as in the transportation. Henceforth the globalisation has been rendered possible by the facilitation of the international financial markets of both developed and developing countries in a global financial system. But not only that because the technological advances in transport and communication have also contributed a great deal.
2.1.1.2 Technological innovations in shipping

Over the last 25 years world shipping has undergone an unprecedented technological breakthrough. Since the maritime transport activity is a derived demand, the revolution that the world witnessed in this sector and its related activities are tributary to the evolution of the trade and its structural changes.

In the period from the mid 60s to the mid 90s international maritime trade expanded from an annual tonnage of 1.674 billion tons to 4.65 billion tons (UNCTAD,1995 (a), p2), an increase of about 178%. This development of seaborne trade led ship operators to take advantage of the economies of scale in order to be able to cut down their costs. Therefore, over the last four decades ships have consistently grown bigger. (Table below)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Oil tankers</td>
<td>263334</td>
<td>271222</td>
<td>270997</td>
<td>267651</td>
<td>-1.2</td>
</tr>
<tr>
<td></td>
<td>37.9</td>
<td>38.2</td>
<td>37.7</td>
<td>36.4</td>
<td></td>
</tr>
<tr>
<td>2. Bulk carriers</td>
<td>239973</td>
<td>242134</td>
<td>250294</td>
<td>261628</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>34.5</td>
<td>34.1</td>
<td>34.8</td>
<td>35.6</td>
<td></td>
</tr>
<tr>
<td>Ore/bulk/oil</td>
<td>36460</td>
<td>34207</td>
<td>27445</td>
<td>25240</td>
<td>-8.0</td>
</tr>
<tr>
<td></td>
<td>5.3</td>
<td>4.8</td>
<td>3.8</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>Ore/bulk</td>
<td>203513</td>
<td>207927</td>
<td>22849</td>
<td>236388</td>
<td>6.1</td>
</tr>
<tr>
<td></td>
<td>29.3</td>
<td>29.3</td>
<td>31.0</td>
<td>32.2</td>
<td></td>
</tr>
<tr>
<td>3. General cargo ships</td>
<td>104933</td>
<td>106866</td>
<td>103731</td>
<td>104145</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>15.1</td>
<td>15.0</td>
<td>14.4</td>
<td>14.2</td>
<td></td>
</tr>
<tr>
<td>4. Containership</td>
<td>32408</td>
<td>34848</td>
<td>39005</td>
<td>43849</td>
<td>12.4</td>
</tr>
<tr>
<td></td>
<td>4.7</td>
<td>4.9</td>
<td>5.4</td>
<td>6.0</td>
<td></td>
</tr>
</tbody>
</table>

(To be continued)
Another important change is the introduction of containerisation in the late 60s. Even though maritime transport of bulk commodities continue to improve thanks to technological advances in ship features and cargo handling equipment, the main spectacular achievement has been realised in the general cargo segment through unitisation and especially containerisation. The reason for this is lying in the efficiency and speed gained by unitised cargo, which allows high productivity in cargo handling and thus reducing packing requirements and stowage problems a great deal. Hence, reducing the time spent by the vessels in port and permitting faster ship’s turnaround time. This will result in the reduction of port costs as time spent in port can be as high as 20% of the total cost of ship calls. (Mancion, 1996)
It yet again appears that containerisation will grow further. Furthermore, the market forecast predicts an increase of 6% to 8% per annum between 1995 and 2000. (BIMCO, 1996, p305), which will give a total containerised cargo of 45.19 million TEUs knowing that the shipments of containerised cargo in 1995 were estimated to have reached 35.8 million TEUs. (UNCTAD, 1996, p3)

Table II.1
Evolution of containerisation

<table>
<thead>
<tr>
<th>Year Items</th>
<th>1970</th>
<th>1984</th>
<th>1990</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Containerised traffic</td>
<td>47</td>
<td>225</td>
<td>336</td>
<td>540</td>
</tr>
<tr>
<td>(million tonnes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fleet capacity</td>
<td>0.19</td>
<td>2</td>
<td>3.172</td>
<td>4.45</td>
</tr>
<tr>
<td>(million TEUs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Container fleet</td>
<td>0.45</td>
<td>4.7</td>
<td>5.9</td>
<td>9.25</td>
</tr>
<tr>
<td>(million TEUs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port throughput</td>
<td>7</td>
<td>51</td>
<td>85</td>
<td>135</td>
</tr>
<tr>
<td>(million TEUs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled by the author from document on Improving Port Performance, Container Terminal Development seminar, World Maritime University, Malmö Sweden, May 1997.

Apart from the size of ships and the cargo unitisation with efficient cargo handling equipment, the rapid and far reaching development in the field of information technology and telecommunications. This has become a valuable tool in the shipping industry and contributed to ease tremendously the movements of goods throughout the production and transport chain. As stated earlier this enormous
improvement of the information technology and telecommunications has even
greatly fostered trade development and enlarged furthermore economic
globalisation.

2.1.2 The impact of the new world trade pattern and the technology
development in ports

Parallel to the change of the world trade pattern and technological developments in
shipping the role of ports has also been completely transformed. As a matter of fact,
globalisation has brought about the emergence of a new thinking in the transport
system. Effectively, instead of being considered as isolated activities, which are
totally independent from each other, the production, the distribution and the
transportation activities have become an integrated system which is interlinked
throughout the chain. Therefore, ports have become important nodal points in the
system. The driving force of this integration is known as the concept of logistics
which is considered as "a procedure of optimising all activities that ensure the
delivery of cargo through a transport chain from one end to the other." (UNCTAD,
1992, p7). In fact the aim is to keep as low as possible the total cost from the
production site to the final destination.

2.1.2.1 The port as a nodal point in the transport chain

Prior to the advent of globalisation of the world trade were just a place where goods
were loaded and unloaded to and from the ships and port managers did not care
about what was happening up or downstream. Therefore ports were playing quite a
passive role. But time has changed and ports have become more active in the
system. To understand the role played by the ports it is important to bear in mind
that the equation in this new trade environment is the "the fastest production and
transportation of goods to the final consumers with the lowest overall costs
possible". Thus, all links in the chain from the production through the transportation
and the distribution to the final consumers must be rationalised and carried out efficiently. The figure below shows a rough scheme for a transport chain.

**Figure 1.2.1**

Scheme for a transport chain

![Transport Chain Diagram](image)

*Source: Port Management Textbook, Volume 1, Bremen 1990

ISL, Institute Of Shipping Economics and Logistics, Page 47.*

Ship owners and shippers are going to be more and more selective regarding the port and will only use the ones which can meet their requirements based on this logistic approach. The old thinking which is just waiting for cargo and vessels to come to the ports belongs to the past. Therefore, port managers have to make a lot of efforts and deploy a good strategy to attract customers and they must be able to keep them whilst they have come by offering the best quality of service with high efficiency and the lowest costs possible in order to avoid any dissatisfaction of the clients. Effectively, it may be easy to attract clients but it is very unlikely that they will come back when they have decided to leave.

**2.1.2.2 Impact of technology development in ports**

The increase in size and the specialisation of ships have put the pressure on ports to cope with the needs of these new generation of ships. One of the main concerns if not the most important from the ship operators as well as the port operators point
of view is the water depth in the ports. Deep water ports, e.g. 15 meters, are able to receive a wide range of vessels. The most serious limitation that ports can encounter and the one which is usually extremely costly and difficult to overcome, especially in developing countries, is the draft availability. Yet it is considered as a valuable criterion for competitiveness. The cost of dredging Tema Port in Ghana to 12 meters for instance is said to amount USD250 million (Lloyds list, 1996a). In relation to the water depth is the quay length as ships are also increasing in length. This is also very costly because one meter of quay can be as high as USD 60,000 (Baril, 1997) depending on the complication encountered on the site.

Cargo handling equipment must also be of a particular concern for port managers. The structural change in maritime transport and the technological advance in the sector require modern and more sophisticated equipment. The benefit gained from the economies of scale would have been lost otherwise. Ultimately ports which cannot keep pace with the evolution and the shipping industry requirements are condemned to step out of the market or to lag behind the competitors. Therefore, cargo handling becomes more capital intensive which put unprecedented pressure on the port financial situation. The past two decades have witnessed the appearance of wide range of equipment types available to ports as well as the introduction of many special attachments for different kinds of goods and packaging. A medium sized port in a developing country may have a total investment of about USD100 million in cargo handling equipment. (UNCTAD, 1990 p4). To give more ideas of the cost of such modern equipment, the price of a second generation Panamax ship to shore gantry crane is about USD2.4 million and for a third generation Panamax one it is around USD4 million.

The impact of technological innovation in ports does not end with the construction and lay-out of berth and the purchase of a modern cargo handling equipment. In effect, the advent of the logistic approach in the maritime transport sector and the integration of the production and transport system have boosted the use of information technology, computerisation and telecommunications. Nowadays, the
An efficient port is more and more judged by its ability to process and distribute the information to its customers. Good information and data flow is a prerequisite for rapid and efficient cargo flows and thus the competitiveness of the port. (UNCTAD, 1992, p18). Moreover, the introduction of computerisation requires well trained port workers to handle these materials since modern port handling equipment is fitted with computerised instrument.

However, if the performance of the port has improved a lot due to this technical breakthrough, the capacity of the port to employ people has shrunk dramatically as a result of automation and mechanisation.

2.2 The position of the port with regards efficiency and competitiveness

In analysing the pattern of international trade development in recent years and looking to the future trends, it is obvious that the ship owners and the shippers have the final words in the port position on the market. They are the ones who decide if one port is to be used as a nodal point for moving the cargo or not. The factors determining the ship owners' and the shippers' choice of port of call can be grouped under the headings of efficiency and competitiveness.

2.2.1 Port efficiency

Today every port in the world is in one way or another involved in containerisation. The trend in sea trade is clearly towards this method of unitisation. In the 70's 95% of the goods traded concerned non homogenous sets and at the beginning of the 90's this figure was as low as 20%. However, this new trend is not evenly followed by all ports because every port has not evolved in the same manner. Therefore, on the one hand there are small ports having multi purpose terminals and on the other hand some ports constructed more recently are straight away 100 per cent committed to be container ports. The majority of ports all over the world lie between these two types of port. The rapid structural change in maritime transport has made
the understanding of the port problems complex. However, from the author’s point of view, the most appropriate method is then to remain with the basic functions of ports since this study is mainly related to quite a small port with regards to the size and the cargo handled. Therefore, an efficient port should be a port which has the following characteristics:

• Performing a fast ship turnaround time

If the port cannot turn around ships quickly, the cost incurred by the time spent in port will subsequently increase. The direct consequence of that is also a sharp increase in the shipowner’s voyage costs, which means higher freight rates for cargoes using that port. In any case the producers and consumers will be the ultimate victims. This is very damaging for the competitiveness of the national goods on the market. The example taken by Burkhalter illustrates it perfectly. He quoted the cost of producing Brazilian soya beans which was USD165 per tonne and the cost of loading them on board a ship was USD65 per tonne for a total of USD230, while in the United States soya beans were produced at USD195 per tonne and loaded at only USD20 per tonne for a total of USD215 (Cass, 1996, p9). The speed at which this physical transfer takes place is one of the criterion of port efficiency.

• High cargo handling performance

The fast ship turnaround time implies obviously that the cargo handling operation is efficient. In fact, all aspects of poor cargo handling performance will immediately result in longer ship’s time in port.

• Physical possibility of the port

The physical possibility of the ports should not be overlooked. This matter is of a high importance because ships are nowadays high drafted and longer. Therefore, ports which can receive long and high draft vessels will see their potentiality increasing. However, small ports will still remain in the business as long as feeders are in use as they can offset this handicap by fast turnaround time of ships and good cargo flows.
• **Working time**

An efficient port should always meet the requirements of the customers. It should be made possible for the vessel to come at any time and to be worked as quickly as possible to avoid delays and unproductive time. An efficient port is normally working 24 hours a day and 7 days a week. It should be supported by an organisation that could ease the traffic flow and avoid congestion. Nevertheless, this is not an end in itself because it should be done jointly with the ability to employ all equipment to its full capacity. Effectively, no matter if the port is working officially round the clock if the equipment cannot follow the rhythm imposed on them. Thus, a good equipment management is a prerequisite to this.

### 2.2.2 Port competitiveness

The UNCTAD document on Port Marketing and the Challenge of the Third Generation Port gives valuable information on the decisive factors of port competitiveness.

• **Geographical location**

The geographical location of the port is a very important feature for its competitiveness. Effectively, a port which is situated close to the main shipping route will more likely attract shipping lines than the one which is miles away. A number of ports, such as Singapore, Port Said, Cristobal in Panama, Colombo and Malta are well located and hold a strong position compared with others. In 1995 for example, Evergreen, the Taiwanese shipping line decided to drop Antwerp from its round the world service to cut transit times from 77 days to 70 because Antwerp is felt to be far inland and involves a lot of steaming time. (Port development international, 1995, p13).

Ports located close to production and consumption areas are stronger than those which are far away from them. Good examples are: the ports of Rotterdam, Amsterdam, New York/New Jersey, and Santos in Brazil.
Ports having natural deep water harbours, natural breakwater and big waterfront and land side development possibilities are more competitive than those which do not have them. In fact, ports without these possibilities have to recourse to a costly maintenance dredging and build expensive breakwater, which will increase the cost of port services.

- **Hinterland transport connections**
One important factor is the existence of good hinterland transport connections. As mentioned before, ports in their new dimension are not only seen as a starting and ending point of cargo trade but also as a nodal point in a chain. Therefore, an efficient and reliable rail/road and or inland water way transport system is capital for the port to attract cargo. This matter is very important but very often it is out of the control of the port authority. Thus, port planners and government authorities should tackle this particular problem in a very broad manner, associating all the parties involved in the transport network. It is worth noting that the difference between competing ports is often more sensitive in the land leg transport than in the sea leg transport.

- **Port services**
Port services are also an important element for port competitiveness. The role of shipping agents and freight forwarders is of a great importance not only for shipowners but also for ports. Effectively, the agents and brokers are those who represent the owners of the ships and/or of the cargo in all the formalities in ports and will contribute to reduce the time spent by the vessel and the cargo in ports if working efficiently. This will eventually have repercussion on the costs.

Dr B. Mester argued that "for ships and goods, the choice of a port is not only a matter of qualitative criteria". (1990, p51). The reason for this statement is that different port users also have different requirements due to the nature of their goods which may not be very time sensitive because of low value cargo. As far as ships are concerned, they are also caring more about port pricing than any other factors.
Moreover, shippers are emphasising the price of port services more than the quality when the ports in the region give similar service quality.

• **Social and economic stability**
Shippers and ship owners are also very concerned about social and economic stability in ports. According to the UNCTAD document on Port Marketing and the Challenge of the Third Generation Port, social economic stability implies not only events like civil war or unrest, but may also include strikes, safety problems, boycotts, unstable service standards and charges. Those situations make the port unreliable. It should be borne in mind that a port’s image once established is difficult to change and it is often easy to attract new clients but very difficult to get them back when they decided to leave in favour of the competitors. Moreover, it is easier to get a bad reputation than to build up good image for the port.

• **Telecommunications system**
A good telecommunications system is also a prerequisite for both port efficiency and competitiveness. Shippers are currently very much concerned about the possibility to trace their goods once they are entering the port for shipment or for receipt. A port which cannot offer a basic telecommunications system such as fax machines, international direct dial telephones and EDI (Electronic Data Interchange) system is condemned to be out of competition or to be at a weaker position than other ports using those facilities. The situation in ports in most developing countries is desperately bad since it depends to a large extent on the development of the telecommunications system of the country as a whole.

• **Simplified customs procedures**
Excessive customs procedures can also hinder considerably the smooth flow of cargoes in a port. Therefore, the customs while assuming their fiscal, policing functions should also assume their economic role, which is to service and facilitate international trade transactions in the interests of the national economy. (Reynolds, 1996, p4). Thus a computerised system should be used and where possible the use
of x-ray technology should be encouraged in order to minimise the physical checking of each individual consignment, which is extremely time consuming and can easily cause unnecessary delays to the cargoes.

These are the main factors that should be considered when running a port business. Obviously, these are the basic features of a modern port but the list is not exhaustive. There are other factors that can influence the port competitiveness, but the above are considered by the author to be the most important ones.

2.3 Conclusion

Thousands of people are convinced that the economic growth for many developing countries is closely linked to the expansion of their foreign trade, most of which is carried by maritime transport. Export-led development has been a particularly important feature of the so-called newly industrialised countries, where foreign trade growth has been reflected in significant increases in the gross domestic product (GDP).

However, the development through foreign trade is not an end in itself because it needs to be backed up by an efficient port system to attract the traffic. As noted through this chapter port business is extremely dynamic and based essentially on the customer's requirements. Thus, ports are always called to follow thoroughly the various developments of the markets in order to keep up with and to develop the business. The costs incurred in ports are the ones which can hardly be controlled by the traders and are likely to be one of the causes of high costs in moving goods. Port managers should take this challenge as a daily meal to try to make their ports highly competitive and efficient. In this matter they should not work in isolation but in a perfect synergy with the port community as a whole.
CHAPTER 3

PORT ORGANISATIONAL STRUCTURE AND MANAGEMENT IN MADAGASCAR

Writing about port activities in Madagascar is a quite difficult exercise if not a real challenge in the present time. In spite of the nature of the country which is an island and the great number of ports existing around its 4,828 km of coastline, the author is flabbergasted by the fact that ports do not receive the level of interests that they should do from the whole living forces of the Malagasy economic sectors of activities. This allegation is not gratuitous if taking a close look at the state of affairs in those ports. Unfortunately, the real situation is very much kept under shadow because of the quasi non existence of reliable and up to date data information about them. Moreover, because of the lack of awareness on the importance of the port in the national economy nobody would be attempted to take up the issue. Even the main international port of Toamasina is not an exception to this situation. This chapter will attempt an overview of the port organisational structure in Madagascar and will focus on the secondary deep-sea shipping ports, the object of this dissertation with a particular reference to the port of Antsiranana (Diego-Suarez).

To grasp the whole idea about port in Madagascar the general organisation of the Malagasy ports will be described.

3.1 Administrative organisation of the commercial ports

Port activities in Madagascar are governed by the Decree n°67-550 of 19 December 1967 regulating the organisation of the commercial ports.
All ports in Madagascar belong to the public domain under the general conditions defined by the law related to the state land property.

The ports are classified into four categories:
- The main international ports
- The secondary deep sea shipping ports
- The main cabotage ports
- The secondary cabotage ports

Madagascar has eighteen registered ports in total spread all along the coastline. (Figure III, page 62)

All ports are centrally administered by the Ministry of Transport and Meteorology except the main international port of Toamasina, which is run by a corporate body named SEPT (Société d'Exploitation du Port de Toamasina) under the supervision of the Minister who is also chairman of the Board of Director.

The management of ports is directly under the Maritime Transport and Inland Waterway Directorate (Figure II, page 39). This Directorate is made up of central services and external services. Among the central services is the Port Exploitation Service in charge of the commercial ports. Moreover, the Directorate has one Port Project Committee in charge of all investment projects.

The external services are constituted by four Regional Services of the Merchant Marine, namely Toamasina, Mahajanga, Toliary and Antsiranana. These services are as far as ports are concerned in charge of the direction of the autonomous ports and the supervision of the maritime affairs and ports in the respective regions. Below is the organisational chart of the MTM.

The organisational type of the secondary deep sea ports is a mixture of a tool-port and a service or operating port systems. The local Port Authority is providing not only the infrastructure but also the whole or at least a major part of the
superstructure facilities. Moreover, the Port Authority offers to the vessels and to the cargoes a number of services.

The MTM is assisted by an entity called "Conseil National des Ports" (National Ports Council).

3.1.1 The National Ports Council

The CNP attribution is to advise the MTM, responsible for the ports in Madagascar, on all matters related to the functioning, the exploitation and the equipment of the ports particularly on:

- Draft of the Ports Annex Budget (BAP)
- The account of exercise of the BAP
- The composition and the working conditions of the public services assuring the port functioning
- Project of concession or leasing contract
- Tariffs, port dues and charges
- Equipment policy and master planning

The CNP is composed of at least 24 members from various departments having interests in the port. They are purposely not listed here because the department's attributions and names vary with the change of government. Therefore, some departments disappear while others are created.

3.1.2 The functioning of the ports

The functioning of the ports is assured:
- For the main international port and the secondary deep sea shipping ports by a director of port assisted by a port committee.
- For the cabotage ports by an agent of port.

3.1.2.1 The main international port

• The Director
The director of the main international port is a civil servant coming under the MTM. He is accountable directly to the Maritime Transport Directorate. He is responsible for the good functioning of the port, for the maintenance of equipment and facilities, for their exploitation, for the application of concession contracts and the authorisation of occupation of the port land property by a third person. He is also in charge of the control of the financial dealings with the contractors.
• The Port committee
The Port Committee advises the Director on all matters related to the exploitation and the equipment of the ports particularly:
  - The draft of the annual budget relevant to that particular port
  - The account of exercise
  - The readjustment of dues and charges and all port taxes in general
  - The composition and the working conditions of all public services assuring the functioning of the port
  - Equipment policy and strategic planning
  - All measures intended to ameliorate the port working conditions and exploitation.

3.1.2.2 The secondary deep-sea shipping ports

• The Director
The director of a secondary deep sea shipping port is a civil servant under the M.T.M. He is directly accountable to the port service in the ministry and nominated by the minister. The director, assisted by a port committee is responsible for the functioning of the port, the organisation and the co-ordination of the activities of the public services involved in the port. He is also in charge of the application of concession contracts and the authorisation of any kind of exploitation within the port area. He is finally responsible for the financial aspects of the port activities.

• The port Committee
The Committee has to be consulted on all matters related to the exploitation, and the development of the port and its equipment. The final decision belongs however to the M.T.M. The Committee members give their opinions on all questions submitted to them by the Director of the port. The make up of the committee is fixed by a Decree of the M.T.M.
3.1.2.3 Cabotage ports

These ports are run by an agent of port. This person is a civil servant under the M.T.M and accountable to the Port Service of the Ministry. He/She is assuring the functioning, the exploitation and the maintenance of the port.

3.1.3 The Port Annex budget

The financial management of the port, except Toamasina, is performed by the M.T.M according to the voted expenses and revenues of the Port Annex Budget (BAP). The incomes are unique for all the ports but the expenses are allocated under three main sections which are:

- The main international ports section
- The secondary deep sea shipping port section
- The cabotage ports section

The positive balance of incomes at the end of the year are set aside in the reserve fund of the BAP, up to 20% of the total budget.

The major maintenance and equipment acquisition expenses are funded by transfer operated from the incomes of the ports to a particular account in the Treasure Office.

3.1.4 Port exploitation

The installation and the exploitation in the ports can be done under a concession for public equipment or a permission for private equipment system.
3.1.4.1 Concession for public equipment

It takes the form of a contract by means of which the port entrusts another public or private company the responsibility for rendering a public service in the port, such as cargo handling, warehousing, and which it manages on its own account in return for which it receives fees from users. The equipment in use may belong to the port authority or the port itself. In the latter case the equipment is transferred to the port at the end of the concession.

The concession is approved by a decree and it fixes the rights and obligations of the parties under the form of contract between the operators and the Maritime Transport and Inland Waterway Directorate. The contract defines the financial conditions of the operation.

3.1.4.2 The permission for private equipment system

There are two forms of permissions in use. The first one is under the form of concession for public services with use of private equipment, and with occupation of the port premises. The maximum duration of the contract is 10 years with a renewal clause. At the end of the concession the equipment remain to be the property of the operator.

The second system is a permission for private equipment with exclusively private purpose. It can be accompanied by the authorisation of temporary occupation of the port premises. The authorisation is given with the possibility for the port to revoke it at anytime if need be. The maximum duration is 5 years renewable.
3.1.5 Financial and accounting management of ports

In 1994 the W.B have published a paper written by Marc H. Juhel and Michel G. Audige about this particular issue, and their findings are highly valuable for a better understating of the situation. (Juhel and Audige, 1994). As stated earlier the secondary deep-sea shipping ports are financially managed by the Port Service of the M.T.M directly in charge of governing the Ports Annex Budget. The BAP is a separated item in the government annual budget.

The budget consists of provisions for operating and investment expenses and operating incomes from port dues and lease fees. A balanced BAP is mandatory with the consequence that the Government’s subsidy would complete the revenues each time it appears necessary to fulfil this commitment. The financial management of the port activities is simply a thorough follow-up of the expenditure performance under the budget lines on the expenses side and a timely recording of the operating incomes on the revenue side. Furthermore, this purely administrative accounts does not provide any information on the operation productivity, let alone any financial return assessment.

The administrative accounting process itself is highly time consuming and inefficient. The study done by the W.B on the administrative networks used in the BAP’s execution showed that

- 62 basic documents were in use
- up to 160 elementary transactions could be made using these 62 documents
- the time for processing a payment order from the initial order from to the actual payment to the supplier often takes almost 4 months
- the time for processing an income transaction from the starting event to the actual recording in the budget revenues after payment completion could take from 61 days for the port dues to more than one year for the lease fees
- an average of 319 monthly transactions were managed by the Port Services in the year of survey with 14 employees assigned on a full time basis, which amounts to a staff productivity of less than 1.2 transactions per person per day, the outstanding invoices amounted to more than 2 years' budget, half of them 2 years old and over.

From this study the conclusion can be drawn that the present management system is highly inefficient and it has a great impact on the inefficiency of the ports.

3.1.6 Port tariffs

The port tariffs are governed by a decree of 1st January 1968. They are fixed and reviewed by the MTM after proposals from the ports. The last review of the tariffs was for instance made in 1996 by the interministerial decree n° 5915/96 on 13th September 1996 fixing the tariffs related to the dues and fees in the Malagasy commercial ports other than Toamasina.

The tariff system includes the following items:
- Port dues
- Dues on passengers and cargoes
- Dues on ships
- Pilotage and boatage fees
- Towage fees
- Fees for temporary occupation of the quay apron

The problem related to port pricing in Madagascar is that they are non cost related and non objective related tariffs. It is not unusual to find that the new tariffs are just an increase of a certain percentage to the previous ones. The last tariffs are for instance increased by 15% from the previous ones. Hence, port tariffs do not comply with the requirements of a sound financial analysis, which ensures that the cost of running the port, capital costs and operating costs, will be covered by the
revenues. Cost coverage is very important since a loss making port will not be able to improve and increase its assets to be more efficient and competitive. Moreover, it will really jeopardise the national economic situation as a whole and the port itself since the government would be obliged to subsidise the port, which obviously will constitute a real burden for the national budget. It is evident that the port will not be able to expand its capacity due to lack of earnings. The situation is even very sensitive for a port which is seeking private investment. In fact, the image of a loss making business is unlikely to attract potential investors to come.

After this overview of the port's administrative organisation the next step of this paper is to analyse the current situation of the secondary deep-sea shipping ports in Madagascar through the case study of the port of Antsiranana (Diégo-Suarez).

3.2 Current situation of the secondary deep sea ports in Madagascar

A case study of the port of Antsiranana

The choice of the port of Antsiranana is not fortuitous because this port is among the three secondary deep-sea shipping ports, the one which has the best potentiality to attract the interest of private investors. Nevertheless, it should be borne in mind that there are no much differences between the three secondary ports in terms of cargo handled, technology evolution, and type of operations exploitation. Moreover, they are all located in the administrative centre of a province.

The port of Antsiranana (Diégo-Suarez) is situated in the northern part of Madagascar (Figure III p65). Geographically it is strategically well located half way between Europe and the Far East and also close to the East African region. The province of Antsiranana (Diégo Suarez) is composed of seven main regions of production, namely Ambanja, Ambilobe, Andapa, Antalaha, Antsiranana, Sambava
and Vohémar. They represent 51,211 km$^2$ of land surface with a population of about 450,000 inhabitants. The port of Antsiranana is the only deep sea shipping port in the region among a total of six ports. The existence of other small ports is justified by the poor hinterland connections between these regions, thus some of them are almost like a land locked area.

The problem arising from this situation is that these small ports can only accommodate very small vessels, mostly schooners having a carrying capacity of about 50 to 100 tons. It is obvious that the cost incurred to the goods using these small boats is higher than on board bigger vessels. It is then obvious that the use of the port of Antsiranana would be much more cost effective for the whole province because the producers and the traders could benefit from more economies of scale. That would have the effect of bringing down the cost per unit of the goods loaded or unloaded and would enhance the competitiveness of the region on the market.

The port of Antsiranana is located in a large natural harbour in which vessels enter through a narrow passage of 300 metres wide. Pilotage is compulsory for all vessels over 150 grt and for the time being only one tugboat is available in the port.

The port is working two shifts from 08.00 hours to 12.00 hours and from 13.00 hours to 17.00 hours. Overtime can be worked upon negotiation.

3.2.1 Port infrastructure and facilities

a- Anchorage area

According to their characteristics, three or four vessels can anchor simultaneously with a depth of 10 to 20 metres. For bigger vessels an anchorage area with a depth of 24 metres is available but a little far away from the port premises. Normally all vessels are worked at berth except for the loading of salt, which is done directly from the barges.
b- Berthing facilities

The port of Antsiranana consists of 414 metres of quays, of which 301 metres are for ocean going vessels with a depth along side of 8.5 metres at low water level. General cargo, containers and RoRo vessels are operated on this berth and tankers are able to discharge there as well. Coaster vessels are berthed at the coaster quay with a length of 62 metres and a depth along side of 4.2 metres. The remaining quay is for various launches with a length of 51 metres and a depth of 2.0 metres.

c- Storage facilities

The port is equipped with six warehouses, of which one is refrigerated. (Table III)

Table III
Warehouse facilities in the port of Antsiranana

<table>
<thead>
<tr>
<th>Denomination</th>
<th>Dimension (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magasin A</td>
<td>825</td>
</tr>
<tr>
<td>Magasin B</td>
<td>850</td>
</tr>
<tr>
<td>Parapluie</td>
<td>612</td>
</tr>
<tr>
<td>CC I</td>
<td>2015</td>
</tr>
<tr>
<td>CC II</td>
<td>2120</td>
</tr>
<tr>
<td>Refrigerated</td>
<td>6602</td>
</tr>
<tr>
<td>Open storage area</td>
<td>6602</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19626</strong></td>
</tr>
</tbody>
</table>

*Source: Ministry of Transport and Meteorology*

The open storage area is used for stacking containers. The management of the warehouses and the open storage area are all contracted out. The warehouse A, B, parapluie and the open storage area are exploited and managed by the CMDM (Compagnie Malgache de Manutention), which is operating as a stevedoring company in the port. The warehouses CC I and CC II are under the management of the CCIA (Chambre de Commerce d’Industrie et d’Agriculture). The fish processing company, PFOI (Pêche et Froid de l’Océan Indien), is exploiting the refrigerated
warehouse. The PFOI is also allowed to operate on the quay with its own equipment and labour under the contract of permission for a private equipment system.

d- Cargo handling equipment

The port of Antsiranana has a fairly good cargo handling equipment. However, the average age of this equipment is quite old and some of it has obviously already reached the end of its economic life. (table IV)

Table IV
Current inventory of Cargo handling equipment in the port of Antsiranana

<table>
<thead>
<tr>
<th>Operators</th>
<th>Equipment types</th>
<th>Characteristics</th>
<th>Units</th>
<th>Age</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMDM</td>
<td>FELs</td>
<td>Hyster 32T</td>
<td>01</td>
<td>11</td>
<td>Good condition</td>
</tr>
<tr>
<td></td>
<td>FELs</td>
<td>Hyster 28T</td>
<td>01</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FELs</td>
<td>Hyster 22T</td>
<td>01</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLTs</td>
<td>Manitou 8T</td>
<td>02</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLTs Mc 25C</td>
<td>Manitou 2.5T</td>
<td>03</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLTs MCE 25 H2</td>
<td>Manitou 2.5T</td>
<td>02</td>
<td>06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLTs MLT</td>
<td>Manitou 2.6T</td>
<td>01</td>
<td>06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLTs</td>
<td>Electric Force 1T</td>
<td>01</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tractor semi-trailers</td>
<td>Ottawa 32T</td>
<td>02</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tractor</td>
<td>M Fergusson 290</td>
<td>01</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tractor</td>
<td>M Fergusson 260</td>
<td>01</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tractor</td>
<td>Renault</td>
<td>01</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cranes</td>
<td>G60-12T</td>
<td>03</td>
<td>25</td>
<td>Working</td>
</tr>
<tr>
<td></td>
<td>Crane</td>
<td>Bondy 2T</td>
<td>01</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Container trailers</td>
<td>32T</td>
<td>05</td>
<td>17</td>
<td>Good condition</td>
</tr>
<tr>
<td></td>
<td>Trainers</td>
<td>25T</td>
<td>02</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trainers</td>
<td>5T</td>
<td>02</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trainers</td>
<td>10T</td>
<td>01</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FELs</td>
<td>Manitou 2.6T</td>
<td>01</td>
<td>02</td>
<td>New acquisition</td>
</tr>
<tr>
<td></td>
<td>Crane</td>
<td>CR12-20T</td>
<td>01</td>
<td>02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLTs</td>
<td>Manitou 3T</td>
<td>01</td>
<td>02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLTs</td>
<td>Manitou 2.6T</td>
<td>01</td>
<td>02</td>
<td></td>
</tr>
</tbody>
</table>

Source: Ministry of Transport and Meteorology

The stevedoring company CMDM invested in new equipment in 1995.
Most of the equipment is for quay transfer operation either to the sheds or to the open storage area. Therefore, despite of the acquisition of new equipment among which is a new crane of 20 tonnes by the CMDM, the lack of ship to shore cranes for containers still hinders the port performance in container handling operations. This situation is not proper for the port of Antsiranana since the main international port itself is not yet equipped with such equipment.

One positive aspect of the equipment inventory is the few number of brands if considering that this aspects can be a real problems in ports. (UNCTAD, 1990)

e- Ship repair facilities

The port of Antsiranana is located nearby a ship repair and shipbuilding company. The SECREN (Société d’Etudes de Construction et de Réparation Navales) is equipped with a 200m dry-dock and a number of quays for the repair afloat. However, the capacity of the company to receive clients is presently limited due to the fact that there is only one basin which obviously limits the flexibility of the dock yard. Nevertheless, a project of extension is now under consideration to increase the capacity of accommodation and the company intends to vary considerably its range of activities, such as manufacturing of containers, and the construction of offshore installations. The SECREN is presently subject to privatisation according to the pre-established privatisation program of the government.

3.2.2 Exploitation of the port

3.2.2.1 Present situation

Four companies are now operating and using the port facilities. The CMDM, the CCIA, the PFOI and the SOLIMA (Solitany Malagasy), which is the national petroleum company.

• The CMDM and CCIA are operating under the contract of concession for public equipment system. They perform the cargo handling and the warehousing
operations according to the provisions of this contract. The contract determines the reciprocal obligations of the parties under the form of a document signed by the concessionaire and the Maritime Transport and Inland Waterway Directorate. This document defines the financial conditions of the operation. The contract document is accompanied by a schedule of conditions document which contains the details of the exploitation.

- The PFOI and the SOLIMA operate in the port premises under the regime of permission for a private equipment system. They use their own equipment and temporarily occupy the port premises for a fixed period of a maximum of 5 years. The permission is granted by a decree from the MTM. A schedule of conditions document fixing the occupation fees is attached to the decree.

3.2.2.2 Problems

The practice of these two forms of contracts encountered some problems in those Malagasy ports but they are not proper to the port of Antsiranana as such. It is common to find a situation where the regulations are not respected by anybody, and especially by the administration itself. It is for instance usual to see that the term of the contract of exploitation has expired whilst the company is still operating in the port. This situation is often due to the lengthy procedure of renewal. Even though the contractor has already engaged with a comfortable margin his request for renewal and his application is not considered timely. Therefore, they are forced to work illegally. The question arises on how the port is going to charge them and on what basis since the contract does not exist any longer. Who is liable in case of mishap or accident during the operations that the company carries out?

3.3 The port budget

Based upon the figures extracted from the draft budget of 1996, the financial situation of all ports managed by the government and the port of Antsiranana in particular is felt by the author to be below the actual needs in the port. It is worth
noticing that according to the common practice in the public accountancy the voted budget does not divert very much from the drafted one. The budget break down between ports and the central administration in Antananarivo seems to be inadequate because it is really killing the hen with golden eggs and considers the ports as a cash cow. The break down is done rather in the wrong way if considering for instance that the budget for fuel and lubricant for the central administration is as high as that of the port maintenance section in Antsiranana. In definitive the amount is insignificant compared to the cost of equipment and spare parts available on the market.

For the port maintenance section it is only about MGF (Malagasy francs) 20 million and the rate of exchange against the USD is more or less MGF 5000 for a dollar. The total functioning budget for the port of Antsiranana is about 6.5 % of that of the central administration and it is only 4.22 % of the total income of the BAP. The problem is really lying in the fact that no matter how much revenues the port is draining per annum, its share in this revenue is decided by the central government without taking into consideration the economical and financial impact to the port. Table V shows an extract from the BAP draft of 1996.

**Table V Elements from the draft of the BAP 1996**

<table>
<thead>
<tr>
<th>Total revenues estimated of the BAP = 2.134 billion MGF</th>
<th>Total budget of Antsiranana = 90 million MGF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break down of income in Million MGF</td>
<td>Break down of budget in Million MGF</td>
</tr>
<tr>
<td>• Port dues</td>
<td>125.8</td>
</tr>
<tr>
<td>• Ships dues</td>
<td>238</td>
</tr>
<tr>
<td>• Cargo dues</td>
<td>799</td>
</tr>
<tr>
<td>• Passenger dues</td>
<td>5</td>
</tr>
<tr>
<td>• Cargo handling</td>
<td>76.5</td>
</tr>
<tr>
<td>• Pilotage and hostage fees</td>
<td>42.5</td>
</tr>
<tr>
<td>• consultation income</td>
<td>2</td>
</tr>
<tr>
<td>• Immobilised production</td>
<td>97</td>
</tr>
<tr>
<td>• Exploitation fees</td>
<td>721</td>
</tr>
<tr>
<td>• Long-term investments</td>
<td>20</td>
</tr>
<tr>
<td>• Other financial income</td>
<td>5</td>
</tr>
<tr>
<td>• Extraordinary income</td>
<td>2</td>
</tr>
</tbody>
</table>

TOTAL 2,133.8

Source: Compiled by the author on the basis of information from the Ministry of Transport and Meteorology
3.4 Port performance

A survey was conducted by the Port Authority on a sample of 28 vessels in order to know the actual port performance. This survey did not take into consideration tankers but only general cargo ones. The survey gave the following indicators.

3.4.1 Global productivity of the port

The formula used by the port was total tonnage handled/time in port. It gives an average of 430.8T per day with a maximum of 2257T and a minimum of 5T. The hourly average tonnage of cargo handled per gang is 15.7T but if the handling of frozen tuna fish is not included, this rate can be 25.3T per gang hour. The productivity of handling frozen tuna fish is 11.3T per gang hour with a maximum of 36.4T per gang hour and a minimum of 0.32T. The productivity depends on the type of vessel and its gear and the time spent to sort out the product according to the size requirement. If the equipment of the CMDM is needed the productivity is even lower due to the shifting of equipment. The average performance with regards to bagged cargo is 18.9T per gang hour with a maximum of 60T and a minimum of 6.4T. For drums the rate is 60 units per gang hour. Containers are handled with the rate of 8 boxes per hour for the empty containers and 5 boxes per hour for loaded containers.

3.4.2 Performance analysis

First of all, a significant number of studies, reports and documents have looked into the port performance and port productivity. The lesson given by these studies specifies that a good and reliable port performance analysis should be based on accurate, complete, reliable and up to date data from the port as part of their Management Information System. The author is frustrated by the fact that the data available to him about the ports in Madagascar are far from being exploitable to the extent of getting a whatsoever reliable performance analysis. The quasi non
existence of this sort of statistics is rather chronic in this country and it has been one of the particular issues that have been raised during the Symposium on Maritime Transport in Madagascar held in Toamasina in November 1996. The reason for this could be the lack of awareness on the value of such statistics by the people involved in the port administration and management. A quick analysis of the current situation will be made using the tools compiled from various UNCTAD documents related to this issue and the data available on the port.

3.4.2.1 Traffic forecast

In order to show that the port needs to improve its performance, the likelihood of traffic development to the port should first be estimated whether in terms of cargo volume handled or in terms of type of cargo. This forecast is going to focus more on the evolution of the volume of traffic than on the type of commodities because the aim is only to measure the port performance in cargo loading and unloading to and from ships as well as the storage capacity of the port. This forecast is obviously based on the past behaviour of the market trends. Nevertheless, according to the general growth expectation brought about by the new economic policy and also according to the present trends observed by the economy indicators in Madagascar there is a smell of increase in the air. Obviously this will depend upon the strict implementation of the structural adjustment program started earlier and a rigorous follow up of the results gained so far.

Table VI Cargo traffic ,000 metric tons

<table>
<thead>
<tr>
<th>Year</th>
<th>Total cargo</th>
<th>Hydrocarbon</th>
<th>%</th>
<th>Containers</th>
<th>%</th>
<th>General break bulk cargo</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>278,860</td>
<td>82,155</td>
<td>29.5</td>
<td>33,559</td>
<td>12</td>
<td>163,146</td>
<td>58.5</td>
</tr>
<tr>
<td>1994</td>
<td>320,548</td>
<td>133,746</td>
<td>41.7</td>
<td>37,544</td>
<td>11.8</td>
<td>149,258</td>
<td>46.5</td>
</tr>
<tr>
<td>1995</td>
<td>380,793</td>
<td>230,700</td>
<td>60.6</td>
<td>41,298 (*)</td>
<td>10.8</td>
<td>108,795</td>
<td>28.6</td>
</tr>
</tbody>
</table>

Source: Compiled by the author on the basis of information collected from the Ministry of Transport and Meteorology. (*) Estimated on the basis of 10% increase per annum.
The table above shows the cargo handled annually from 1993 to 1995. The figures from 1996 and 1997 were not yet available. Therefore the average traffic is 327,000 tons for that period, of which 44% is hydrocarbon, 11.5% containers and 44.5% general cargo. The global traffic in 1995 observed an increase of 26.8% compared with that of 1993, i.e. an increase of about 8.9% per annum. In aggregate about 43% of the traffic is import and export, 34% national cargo, i.e. between national ports and 23% is transhipment cargo.

The methodology of calculation of the trend is shown in Appendix 1

**Table VII Trend calculation result**

<table>
<thead>
<tr>
<th>x</th>
<th>Year</th>
<th>Tonnage (A)</th>
<th>Trend (T)</th>
<th>S = A/T</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1993</td>
<td>278,860</td>
<td>275,77</td>
<td>1,011</td>
</tr>
<tr>
<td>2</td>
<td>1994</td>
<td>320,548</td>
<td>326,74</td>
<td>0,981</td>
</tr>
<tr>
<td>3</td>
<td>1995</td>
<td>380,793</td>
<td>377,71</td>
<td>1,008</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

**Table VIII Forecasted values of cargo towards 2005**

\[ T = 224.8 + 50.97x \]

The real focus value, \( \hat{V} = T \times S \) and \( T \) corresponds to the trend value for the period 1996 to 2005, which is obtained from the formula above.

\[ S = \text{average seasonal variation from the previous year} = 1 \]

<table>
<thead>
<tr>
<th>x</th>
<th>Year</th>
<th>Trends</th>
<th>Forecasted values</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1996</td>
<td>428,68</td>
<td>428,74</td>
</tr>
<tr>
<td>5</td>
<td>1997</td>
<td>479,65</td>
<td>479,72</td>
</tr>
<tr>
<td>6</td>
<td>1998</td>
<td>530,62</td>
<td>530,69</td>
</tr>
<tr>
<td>7</td>
<td>1999</td>
<td>581,59</td>
<td>581,67</td>
</tr>
<tr>
<td>8</td>
<td>2000</td>
<td>632,56</td>
<td>632,65</td>
</tr>
<tr>
<td>9</td>
<td>2001</td>
<td>683,53</td>
<td>683,62</td>
</tr>
<tr>
<td>10</td>
<td>2002</td>
<td>734,5</td>
<td>734,60</td>
</tr>
<tr>
<td>11</td>
<td>2003</td>
<td>785,47</td>
<td>785,58</td>
</tr>
<tr>
<td>12</td>
<td>2004</td>
<td>836,44</td>
<td>836,56</td>
</tr>
<tr>
<td>13</td>
<td>2005</td>
<td>887,41</td>
<td>887,53</td>
</tr>
</tbody>
</table>
It can be argued that this estimate was made without taking into consideration that the current GDP (Gross Domestic Product) will increase and that could make this estimate even lower than what it should be. Obviously, many other factors can affect the result but this is only based on statistical projection of the past reaction of the market; therefore some adjustments should be made as time goes on.

3.4.2.2 Analysis

According to the present performance of the port regarding cargo handling operations, it is doubtful that they would be able to cope with such an increase of traffic.

3.4.2.2.1 The annual capacity of the port

According to the imperial formula used to calculate the capacity of berth, from the UNCTAD Monograph n°9, Multi-purpose terminals, recommendations for planning and management, the actual capacity of the port of Antsiranana is as follows:

\[ C = R \times \Omega \times N \times T \]

- \( C \) = Potential capacity
- \( R \) = average throughput per ship (tons/ship/shift)
- \( \Omega \) = berth utilisation
- \( N \) = number of working days per year
- \( T \) = number of shift per day

With an \( R = 215.4 \),
Assuming an \( \Omega = 70\% \),
with an \( N = 304 \),
with a \( T = 2 \),
\[ C = 215.4 \times 0.7 \times 304 \times 2 = 91674.24 \text{ tons per year} \]

Taking into consideration the average tonnage handled, which is now 327,000 tons, it can be concluded that there is room for improvement in this port. Moreover, the
UNCTAD recommendation gives a figure of $C = 180,000$ tons / year / berth for one berth and $C = 300,000$ tons for two berths.

### 3.4.2.2.2 Cargo handling efficiency

The cargo handling performance of the port is highly inefficient. The present average ship output is given by the formula:

$$\frac{\text{Average daily output}}{\text{Number of daily hours worked}}$$

That is $430.8/8 = 53.85$ tons/ship working hour.

It should be borne in mind that this is only an average figure since the minimum ship output can be as low as $0.62$ tons /ship working hour. In any case if considering that the port of Antsiranana is using from its current equipment inventory one crane of lifting capacity of 20 tons, and three cranes of lifting capacity of 12 tons, and a crane of lifting capacity of 2 tons, and according to the value in ton per hour as considered to be typical performance for general cargo operations using these types of equipment, the port should be able to handle at least 60 tons per ship working hour. That is one crane performing one hook cycle per 4 minutes and lift 4 tons per cycle. The result would be 15 hook cycles per hour. The possible hook output would be: $15 \text{ hook cycles} \times 4 = 60$ tons/hour.

What is the reason for such low performance in the port?

The answer to this question is numerous but they could be summarised in the following: low equipment availability due to frequent and long time break down, bad planning of labour and bad supervision, absenteeism, bad time keeping, bad equipment allocation, bad planning of the storage operation, congestion in the sheds and warehouses due to long transit time of goods, bad planning of the quay transfer operation creating congestion and slowing down ship operation etc.
3.4.2.2.3 The storage capacity of the port

Shortage in storage capacity can be of a major obstacle for port efficiency. The main difficulty is that it is very difficult to adjust the supply to the demand since it is not realistic to think of building warehouses or sheds within a short period of time while increase in traffic can occur very quickly.

- Dry and refrigerated cargo warehouses

The total space available for storage of dry cargo and refrigerated cargo is 13,024 m² divided into six warehouses. (Table III, p47). It is obvious that this total floor area will not be fully available for storing cargo because the warehouses will need some space for longitudinal and lateral aisleways; space for safety around the shed perimeter; office space and so on. In this analysis the author will only assume that 60% of the area is usable for storing cargo. That gives an usable area of 7851.5 m²

The average stowage factor of cargo going through the warehouse of the port taking the figures of 1994 and assuming that there is only 20 % of the cargo is going to the direct route that is without entering the warehouses. (See Table below)

<table>
<thead>
<tr>
<th>Packaging</th>
<th>Stowage Factor</th>
<th>% in shed</th>
<th>Weighted value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bags</td>
<td>2,0</td>
<td>30,8</td>
<td>61,6</td>
</tr>
<tr>
<td>Bales</td>
<td>2,8</td>
<td>0,92</td>
<td>2,6</td>
</tr>
<tr>
<td>Crates</td>
<td>3,6</td>
<td>0,81</td>
<td>2,9</td>
</tr>
<tr>
<td>Drums</td>
<td>2,2</td>
<td>0,96</td>
<td>2,1</td>
</tr>
<tr>
<td>Cartons</td>
<td>3,6</td>
<td>0,04</td>
<td>0,1</td>
</tr>
<tr>
<td>Loose</td>
<td>3,0</td>
<td>66,47</td>
<td>199,4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>268,76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASF</td>
<td>2,69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the stacking height is assumed to be at an average of 3m, the volume of cargo that can be stored assuming block stacking is:

\[
\text{Volume of cargo} = \text{Total usable floor area} \times \text{average stacking height}
\]

\[7851.5 \times 3 = 23554.5 \text{ m}^3\]
Assuming bloc stacking for a shed, where a big amount of loose and awkwardly shaped cargoes are however unrealistic since there must be space lost. This is the broken stowage. The broken stowage is then assumed to be 20% for this port.

Having done all of these preliminary calculations, the stacking factor of the port can be obtained by the formula:

$$\text{Stacking factor} = \text{Stowage factor} \times 100 + \frac{\text{Broken stowage}}{100}$$

$$2.69 \times 100 + \frac{20}{100} = 3.09$$

The holding capacity of the port is given by the formula:

$$\text{Holding capacity} = \frac{\text{Usable storage area} \times \text{Average stacking height}}{\text{Stacking factor}}$$

$$7851.5 \times \frac{3}{3.09} = 7622.8 \text{ tons}$$

What is now the capacity required by the present traffic handled by the port, taking the figure of 1994 and assuming an average transit time of 15 days? The answer is given by the formula:

$$\text{Holding capacity required} = \frac{\text{Annual tonnage handled through storage} \times \text{average transit time}}{365}$$

$$149,258 \times \frac{15}{365} = 6134 \text{ tons}$$

From this figure and comparing it with the forecasted traffic above it can be concluded that the warehouses do not have enough slack to face the forecasted traffic. Moreover, this result does not even take into account neither the LCL (less than full container load) nor the peaking factor in the calculations.

### 3.4.3 Cargo throughput

The UNCTAD document on Improving Port Performance I postulates that it is not farfetched for a general break bulk cargo berth to achieve an annual throughput of 360,000 T, that is a berth occupied for 275 days and working 250 days, with 18 working hours per day, four hooks, a three minute cycle time and one ton loads. The port of Antsiranana is largely under this figure and taking the 1995 traffic,
which was 150.093 T, gives an annual throughput of around 75,046 T per berth, assuming that there are two berths and the traffic of the coaster quay is included. Often port managers argue that this difference is due to a number of factors such as the low level of traffic passing through the port, the great variety of ships worked and their characteristics, the types of goods handled which can be of high, medium or low productivity depending on the type of unitisation. (UNCTAD, 1991, p7).

Others might say that it depends on the type of equipment used to handle the cargo, and others may assume that the types and age of the vessels calling the port are of a particular importance. All of these arguments are true but the author would like to stress that the operational efficiency of the port can be increased in many ways if the management team is really committed to satisfy the customers and use their skills to find the bottlenecks. It is worth noting that Antsiranana contributed at around 7% of the total national traffic as per data of 1990 from the Malagasy customs.

Very often, port people put forward as an excuse the economic situation of the country to be the main reason of the poor port performance. However, it is experienced in other parts of the world that traffic can be attracted by having recourse to good marketing system and strategic port planning methods. This is for instance the case of the Malta free port taking advantage from the transhipment business which is not related with the national production whatsoever.

According to Gustaff De Monie the real cause of failure in many ports in developing countries is the persistence of inappropriate policies, outdated procedures and operational shortcomings. (De Monie, 1990, p68). He goes further by saying that notwithstanding the emphasis that government and top management like to place on the need for investing in extensive port facilities, the real key to adequate port capacity and performance lies primarily in their efficient use. It is unlikely that enough funds would be easily available today for major investment in port. This is even more relevant for a country like Madagascar where other sectors having a
direct impact on the social welfare also need to be looked at carefully by the government. Whatever the case might be the future of the ports in Madagascar depends on the ability of the management to use their know-how and skills in order to make the ports self supporting and be opened to the source of funds, which are more and more in the hands of private investors.

3.4.4 The hinterland connections and telecommunications

The port of Antsiranana is located in a region where the road network is in a very bad state. There is no railway link and the connection with the rest of the country is simply hindered by the non existence of good road. Apart from the road network within the region itself, the connection with the other part of the country is only really practicable during 4 to 5 months a year. A truck needs 3 or 4 days to reach the central part of the country where industrial areas are mostly concentrated.

Due to this situation most of the cargoes going through the port are mainly local exports and imports directed to or coming from the immediate hinterland. It is for example quite significant that the port of Mahajanga on the west coast is a very shallow port, 4 to 4.5 m deep only so big vessels are worked by lighters, but it is still preferred by the customers because this port has a fairly good road connection to the main centre of production and consumption. It is obvious that if the port of Antsiranana had a good hinterland connections, it would easily attract more cargoes and ships due to its strategic location from the shipping route between Europe, the Indian subcontinent, the Far East and East Africa. Further, it does not need any heavy dredging investment since the depth is suitable for feeder vessels.

As far as telecommunications are concerned, many efforts have been made by the government towards this particular issue. The region is now equipped with International Direct Dial telephone system and the possibility of using Fax machines has been made available for a long time. As Madagascar is now abreast of the modern communications system, such as Internet, the region of Antsiranana is expected to receive this facility in the near future.
3.5 Conclusion

At the end of this chapter the author would stress the fact that restructuring the port needs a thorough analysis of the current problem facing the port in order to find the best way to achieve a successful change.

In the case of the secondary deep sea shipping ports in Madagascar the main problems are lying in the heavy bureaucracy resulting from a strong centralisation of the management system. The port as an entity does not have enough autonomy to decide on the suitable management system to apply. Therefore, even though some private and semi private companies are taking part in the port operations, the system has its drawbacks due to lack of incentives from the central government. The personnel do not have any kind of motivation since the port lacks strict financial obligation with regards to the assets. This is the cause of inefficiency and uncompetitiveness. In the long run the port will be faced with more problems such as lack of equipment, and bad infrastructure. The absence of sound commercial practice in the management does not allow the ports to ensure the consolidation of the physical improvements but prevents them from increasing the assets. The key to efficiency is to manage the port according to the market forces and the focal point should be the customer’s requirements. Moreover, the priority of the MTM may not always be the same as that of the particular port since it has 17 ports to take care of. It is then very doubtful that the MTM would be able to set a consistent port policy and clear objectives for all of these ports. In addition, the government does not have the necessary capital to invest in port development; therefore, the port will suffer a great deal.

Since Madagascar has chosen to consider the foreign trade to be one of the keystone of its economic policy it is opportune to think about port restructuring because the train of the progress does not wait for those who are not yet ready to join.
Fig. III Location of the Malagasy Ports

Source: Compiled by the author
Not to scale
CHAPTER 4

PORT RESTRUCTURING - ALTERNATIVE METHODS

The management system of the secondary deep-sea shipping ports in Madagascar are the main cause of inefficiency of those ports as they are weighed down by rigid bureaucratic regulations and extensive political influence. The government control is acting like shackles forcing them to work under defined patterns, which are not moulded according to the market needs. Due to this situation they fail to operate any development strategy but struggle literally for keeping the standard of a sea port. It is obvious that they cannot shoulder any sustainable growth of the economy which is expected to be powered by the large involvement of private investors, especially foreign direct investments. If the GDP growth of 6% set by the government in its program is to be reached, it should be borne in mind that it must be accompanied by a good transportation flow part of the chain of production and distribution to the final customers. In an island like Madagascar where traders only have two alternatives for foreign trade transportation: by air or by sea, ports are absolutely an obligatory gate for most cargoes.

It is clear that the devolution of a number of port services to a third party is already common practice in the Malagasy ports. However the results were not positive because there was no real commitment. Neither third parties nor the port Authority are for instance free to set up their tariffs on a cost basis. They are crumbling under the high redundancy of the labour system which allows casual workers to get the advantages of permanent ones. Every transaction should follow a bureaucratic maze to get approval.
The government has included in its program the privatisation of the ports but the strategy to achieve it and the type of private participation to be adopted are not yet seen in the horizon. The recent list of companies to be privatised showed in 1997 does not mention anything about ports. As a matter of fact choosing the right type of privatisation is not an easy task and yet there is no pre-existing formula adapted to a particular country or to a particular port that could be taken as a blue print.

The present chapter is intended to give an overview of the various restructuring methods, which have been found successful world-wide.

Before starting the author would like to make a point about the terminology used in this chapter. Even though restructuring may suggest the possibility of changing the structure of an organisation and may not imply privatisation as such, the author is using it in its context here i.e. private participation in the port business. The objective of the dissertation is to analyse the perspective of initiating private participation in public port system.

4.1 Objectives of port restructuring

In order to achieve successful port restructuring the people who are involved should give particular attention to the objectives of their actions. According to UNCTAD (1995b, p6), “the general objective of restructuring is to make port management market oriented and thus enable it to satisfy its clients' needs, subject to meeting its financial objectives.” Though they have different management structures and styles, different in size, public or private, successful ports are all highly market oriented while unsuccessful ones are not. This broad objective however is surrounded by more specific objectives which may vary greatly from port to port and from country to country. Nevertheless, those specific goals should not undermine the general goal and the end result of any action taken should enable the port to respond to the market requirements.
What are then the specific objectives of restructuring the port?

4.1.1 Improving entrepreneurial and management capacity

This is one of the reasons put forward in the United Kingdom, where the government is keen on promoting an enterprise culture and improving port access to capital markets (Cass, 1996, p23). Recently, this idea was confirmed by Giovanni Benedetti, Commercial Director of the Sociedad Porturia de Cartagena in Colombia who declared:

"Privatisation has brought about a revolution in my port, we have been able to cut costs by 78% for exporters since we started business four years ago.....Cartagena is now a modern port with modern working practices and Colombia is reaping the benefit" (Lloyds list, 1997a).

4.1.2 Enhancing efficiency of port services

The needs to take strong actions against expensive and inefficient port operations which hinder the development of foreign trade were felt by many governments. It has been well recognised that because of inefficiency, cargo could easily be attracted by competing or neighbouring ports.(Martens and Boatman, 1994, P7)

4.1.3 Diversifying port services and promoting competition

This was the main concern for the Costa Rican port of Limon for instance. In order to have good competitive strength vis-à-vis the neighbouring ports in Panama, the manager at the Moin Terminal of Puerto Limon argued that they needed to change their approach about privatisation because with Panamanian ports having a good share of the market they would be affected. Thus, in order to strengthen their
position they need to diversify the services they are offering to the customers so as to attract private investors to achieve that. (Lloyds list, 1996a).

4.1.4 The desire to raise revenues by sale of public assets to the private interest

As mentioned before the sale of public assets will help the government to raise money in order to restore the budgetary imbalance. Also, the fruit of the sale can be used to finance other expenditures or to write off the government's debt.

4.1.5 Encouraging involvement of port employees

It was considered that the possibility of having shares in the business would bring about more incentives and better involvement of the port management and employees. Moreover, it is felt that this has the advantage of spreading the profits from privatisation in an acceptable manner, maintaining local control on port activities and safeguarding them against unscrupulous take-over. (Thomas, 1994, p143)

4.1.6 Streamlining port labour to reduce expenditure

The port reform undertaken in New Zealand for instance included a labour reform. It meant scrapping the existing labour pool structure. This contributed to end up industrial strife and to increase productivity. Companies operating in the ports were then allowed to take on their own stevedores as they required. (Lloyds list, 1992)

4.1.7 Benefiting from transfer of technology and know-how

This was for instance put forward in the recent partnership formed between the port of Singapore Authority and Yemen Investment and Development International
4.1.8 Complying with the conditions of International Financial Institutions

Privatisation is often part of the condition expected by the IMF and the WB for their funding. This is for instance the case of Madagascar where the Bretton Woods institutions insisted on real commitment of the government towards privatisation as part of their conditional agreements.

The above lists of objectives are far from being exhaustive and any specific objectives for restructuring will depend on the actual needs of the particular organisation and the strategy adopted by the government in its port policy.

4.2 Main types of private involvement

The concept of port privatisation is at the same time very broad and complex. The word privatisation, which is used to define private participation in the port business covers a large spectrum of the degree of presence of the private investors. Therefore, to determine very sharply what is privatisation is very perilous in so far as there are large number of hybrid forms that every one define eagerly under the general term of privatisation. Nevertheless, there are two extremes of private involvement within which the different parties involved can choose the system that suits their objectives.

4.2.1 Partial privatisation

Partial privatisation is the most used form of private participation. It has long received the favour of many governments because it allows them to continue to hold the ownership of the land as the private operators lease the land from them. The municipality of Rotterdam for instance owns the land and the water and leases
the infrastructure to private companies. They provide the site ready for building and they also provide the access to the site. Moreover, quay walls are made ready for the operators and the water depth is prepared according to agreement. On the site private companies will take care of the surfacing of the site, building of superstructure, offices and sheds, the transport network inside the terminal and all the equipment for the operations. Moreover, they will provide the facilities like rails, electricity, water and gas. However, private contractors in some cases, such as in Le Havre France, may provide infrastructure as well. The relationship between the port authority and the private companies is often defined by a lease agreement.

4.2.2 Full privatisation

In this second type of privatisation system, the private organisation fully owns the infrastructure, the superstructure and the land property. The government is completely out of the picture. This is the case in some UK ports, such as the port of Felixstowe. Despite the fact that full privatisation has not received the consideration of the majority, it has its advantages. They are lying generally in the opportunities of widening business interests, greater access to capital markets, and greater responsiveness to the business opportunities as well as the market competition. Additionally, full privatisation is the most likely to give the highest opportunities to commercial redevelopment and property development. The growth realised by Associate British Ports (ABP) is for instance attributed to this property development. As an example, valued at £60 million when the British Transport Dock Board was privatised in 1983 but valued at £490 million in 1990. (Turnbull, 1991). However, full privatisation is a very sensitive way of restructuring since the capital may easily end in the hands of foreign interests. In any case the adoption of such a method requires a strong political and economical commitment from the government, who should study in depth the probable end result of the operation and its real impact on the national economy.
4.3 Arguments opposed to port privatisation

Any government would argue nowadays against the necessity to seek more private participation in the business activities of a country especially in ports where huge investments are needed as governments do not have the necessary funds in their hands. Nevertheless, privatisation has not yet obtained the unanimity and some arguments are still against it. In effect, privatisation is not a nirvana but its implementation calls for a particular cautions.

4.3.1 Privatisation versus public service functions

'Although most of the inherent benefits of genuine port privatisation schemes are tangible, and have actually been realised by those countries that have fostered private initiative in port operations, privatisation scheme also carry some serious deficiencies or threats.' (De Monie, 1994, p3)

Private operators who are profit maximisation minded would effectively be attempted to abandon facilities and services which do not allow a good financial return, even though they are highly valuable for the society and the environment. This issue is extremely important and put operators in front of a dilemma.

4.3.2 The risk of shifting from a public to a private monopoly

It has been mentioned earlier that the objectives of restructuring include the desire to create a competitive environment in order to enhance efficiency and improve quality of service for the satisfaction of the customers. However, ill considered privatisation may put the whole business in the hands of unscrupulous private companies, and the end result would be even more harmful than public monopoly. The aim to expand trade through this process will be jeopardised by the selfishness
of certain private ownership who are emphasising financial return rather than being user friendly. This situation is more likely to happen in a port where only a very limited competition exists. Nevertheless, some port experts believe that a private monopoly is much better than a public one because it can always be controlled by proper regulations and user pressures. (De Monie, 1994, p3)

4.3.3 Loss of employment

In a country where unemployment is already high or the job opportunity very limited, port restructuring has always been felt as a threat to port workers. Very often state owned enterprises, such as ports, are devoted to social objectives apart from being business activities. Hence, even though they are groaning under the weight of such labour, the government is obliged to maintain the system in order to avoid any social tension. However, the author believes that this argument should be balanced because it has started to be phased out by the increasing creativity and economic multiplier effects brought about by privatisation in port activities. Companies, even if not directly involved in the port operations per se, are created in a great number and are doing business that is related directly or indirectly to the port. They can absorb the extra number of port employees made redundant by the privatisation scheme. The only condition, and it will be part of the pre-privatisation program that will be discussed in details later, is the re-training or training of these workers to upgrade their skills to cope with the new type of activities they are engaging in.

4.3.4 Fear of closure

During the restructuring process some public enterprises may be shut down because they are simply unnecessary and not financially viable so their existence is not justified any longer. However, part of them may still be salvaged in many cases. This matter is even more sensitive than the reduction of the number of employees because all workers risk to be out of employment.
4.3.5 Loss of control from the government side

There is also a fear that the control of the formerly state owned port will end up in the hands of foreign interests who do not always aim at the national development as such but only to generate as much profit as they can. It is not only foreign investors who matters but also local investors. In Poland for instance, in the port of Szczecin/Swinoujscie, workers were allowed to take the majority shares in companies including workshops and warehouses. However, the capital raised by the workers could not sustain the needed investment to run a terminal while the municipal government had already lost control of large chunks of the port. The problem is now to find a way to remedy to this situation. The question is how can the municipal government intervene in the business without being liable of breaching the agreement.

All these arguments mainly come from those who are benefiting from the existing system and especially in developing countries where the capital is often in the hands of limited categories of families and where most of the political leaders have business interests in almost every activity. Those favoured group of people often feel threatened by competition. Moreover, in countries where social welfare does not exist and there is no other guarantee for support from the government for unemployed people, the resistance from the workers' unions is likely to be very strong.

There are of course a lot more arguments against privatisation but most of them are felt by the author to be psychological and due mainly to lack of awareness. The government does not take enough time to explain to the people the ins and outs of it.
4.4 Restructuring methods and forms

In its paper entitled *Mission and Role of Port authorities after Privatisation*, Gustaaf De Monie pointed out that:

"... much of what the national authorities have heralded as bold moves towards privatisation, are often not much than a mild form of devolution, leading to the delivery of selected port services by private or mixed economy companies on the basis of leasing, licensing and concessionary contracts".

As mentioned before, apart from the experiences in UK ports and some other ports on a smaller scale like Ijmuiden in Amsterdam, full privatisation has not yet received the enthusiasm of governments. It supposes effectively a complete transfer of property ownership to the private investors thus implying a total loss of control for the government. However, the author believes that apart from the giant private port operators like Hong Kong International Terminal (HIT), medium or small investors are very happy to lease the immovable assets especially in ports where the land value can be very high and debt servicing associated with the land acquisition would jeopardise the whole business.

What are then the main alternatives in use presently?

4.4.1 Commercialisation

According to the UNCTAD document *Comparative analysis of deregulation, commercialisation and Privatisation of ports*, commercialisation is requiring ports to follow economic objectives and adapting the port organisation and management to be in line with commercial practice and market needs. (UNCTAD, 1995b, p12). Baird believes in turn that commercialisation is dividing the port authority's principal
activities into separate operating units, each thereafter functioning as an independent commercial company. (Cass, 1996, p41). Commercialisation has been used in many ports, such as Trinidad and Tobago, the UK, New Zealand, Morocco and many more.

In Trinidad and Tobago, three key operating units have been created respectively for carrying out cargo handling operations; floating crafts including barges, tugs, floating cranes and dredgers and third a ferry service, which is responsible for maintaining the ferry link between Trinidad and Tobago. (Cass, 1996, p41).

In New Zealand, a port reform bill was enacted in 1988, which required every harbour board to form, under the general company legislation, a company with shares. (UNCTAD, 1995b, p12)

According to the ESCAP document, major issues in transport and communications: concepts and guidelines for the implementation of the commercialisation and privatisation of ports,

"...commercialisation involves the delegation of the authority to public sector enterprises to raise capital, restructure management, set price and generally work with greater flexibility in responding to market demands while remaining within the public domain."

(Ports and Harbours, 1996, p14)

The port of Singapore was taken as the best example of this kind, by being a statutory body which operates as a corporate entity and enjoys freedom and autonomy in running the port.

4.4.2 Deregulation

Even though commercialised, ports can still be hindered by some governments regulations which are in contradiction with commercial principles. Thus, the advantage gained from commercialisation can easily be offset by the non-existence
of a competitive environment. At the end, the efficiency will suffer again because of lack of competition. In this environment, where competition is the rule of the game, the effective control of the port efficiency will be automatically done by the market forces. The port managers who react towards the customers' needs will be immediately rewarded by increase of the trade through their ports and those who take bad decisions or decisions against market requirements will be punished by loss of traffic, which in turn will be passed on to their financial situation. (UNCTAD, 1995, p9) In 1993 for instance Jose Alfredo Sabatino Pizzolante of Venezuela pointed out that Brazilian ports were among the costliest and least efficient in the world, so each year the country loses USD 5 billion in exports. The reason for the inefficiency partly comes from the old labour legislation, which gave a monopolistic position to the stevedores' pool and dock workers' pool in ports. (Pizzolante, 1993, p22) Deregulation should always encourage competition in the port industry and should avoid the acceptance of any attempt of monopolisation.

4.4.3 Sale of assets

This method is mostly encountered in the UK where privatisation is done through complete transfer of ownership of property and assets from public to the private sector. (Thomas, 1994, p140). In this case private involvement can be done in three different ways:

- Public issue or offer: the business will be floated in the stock exchange and the shares are open to free trade. The shares are sold in total or in large blocks but the small buyers and employees may be given priority. It may also be done by placing of shares with a limited number of acceptable institutions. This method, in spite of giving the best value to the assets needs strong attention from the government since the assets may totally escape from the national interests. This is the reverse side of the medal as the transaction is completely free and anybody can trade. This is the case in the port of Felixstowe which is now in the hands of a Hong Kong based group, Hutchison Whampoa, which meant Chinese interests from 1st July 1997.
- **Competitive tender**: If the above consists of selling shares, in this method it is simply the sale of assets. Any company is allowed to bid and the sale is made to one bidder, normally a trade buyer. The MEBO (Management/Employee buy-outs) system can be used in such a method. The difficulties is that the government cannot control the possible purchasers and the proceeds from sale. The case of the Polish privatisation mentioned earlier proves the difficulties of this method.

- **Negotiated sale**: This method consists of negotiating the sale with a single purchaser who can be a trade buyer or a MEBO. The price of the asset is determined by negotiation and the government is free to select the purchaser according to its criteria. This method is favourable to small investors but the government should be cautious since the price may be below the market valuation or not as high as possible. It should be borne in mind that the aim is maximising the sale proceeds.

### 4.4.4 Corporatisation

Differing from the sale of assets, corporatisation does not consider any transfer of ownership from the public to the private sector. It is more about setting up of an independent entity that is still remaining under the government control but having recourse to commercial methods of doing business. This is the complementary scheme of the commercialisation. (Ports and Harbours, 1996, p14). The structure is, the incorporation of the government bodies as wholly-owned subsidiaries of a government holding company whereby board level control will still remain in the hands of the public sector. The ports of Johor and Penang in Malaysia illustrate this method. Legally the ports are becoming private entities, with all infrastructures and superstructures transferred to the companies. The situation is that full share holding in the companies remains with the government. (Osborne, 1993; p34). This method is considered as a half way between the public and private sectors. It is used as a transition period prior to genuine privatisation.
4.4.5 Concession contract, build operate transfer (BOT)

A concession is the grant of specific privileges by the government to private companies. These companies assume the commercial risks related to the port activities they are undertaking, and they have to pay some shares to the government without considering their own profitability. (Soto Rios, 1994, p86) Grosdidier de Matons argues that strictly speaking, it is a contract by which the grantor gives to the grantee (the concessionaire) the right to finance, build and operate the facility, or some equipment for public use, for a limited period of time after which the equipment will be transferred free of charge to the grantor. According to him, the concession is legally a technique for creating, delivering and operating a public service. Therefore, the BOT scheme is nothing but a kind of concession contract.

The advantages from concession can be seen from three angles:
- they relieve the finances of the grantor
- they establish a strong legal relationship between the grantor and grantee
- they are attractive for foreign capital without loosing long term control over the assets. Nonetheless, concessions also have their disadvantages due to the dominant position of the concessionaire and the lack of transparency.

From the concessionaire’s point of view the problems may arise when he does not have the freedom of hiring and firing because of possible pressures from the government. There is also a risk when the business is not profitable which results in concessionaire cutting down on new investment and maintenance.

If the concessions system and the BOT are very interesting in that they can be used to modernise the port, they have less chance to succeed in a country where there is imbalance in the amount of investments needed and the capability of the private companies.
4.4.6 Leasing

This is a contract of giving the right to private companies to conduct business on their own account on the assets owned by the government. The contract runs for an agreed period of time against the payment of a certain amount of money to the lessor. Normally, the lessee bears the commercial risks of the business in so far as the payment has to be made whether the company makes profit or not. However, there are always means of finding common ground between the parties in order not to jeopardise the business. Leasing can take various forms including:

- **leasing of existing site and equipment**: This is for instance the case of the Laem Chabang Container Terminals two, three and four, which are leased to the private contractors with gantry cranes and equipment.

- **leasing of existing site and sale of equipment**: This is the method used in Port Kelang Authority Container Terminal, where outright sale of movable assets and leasing of immovable assets are combined.

4.4.7 Management contract- service contracts

Under this arrangement, private sector management, technology and skills are provided by agreement to the port for a defined period of time at least five years and against payment of compensation. The ownership however stays within the hands of the port authority and furthermore it is responsible for provision of further capital. It has also been agreed that this form of privatisation is one means by which a port authority entrusts a third party with the management of part or all of its facilities and /or services. (Cass, 1996, p49)

4.4.8 Joint Ventures

These are usually equity partnerships between a government body and a private sector party. (Ports and Harbours, 1996, p14). Generally they are undertaken for mutual interests, for instance technological transfer against access to a particular
market. It may as well be justified by the will of the parties to share the risks in a particular business.

This method appears to be the choice of China when in September 1993, Hutchison Whampoa Ltd owner of HIT and SPA (Shanghai Port Authority) signed the most important deal at that time. The agreements gave Hutchison a 50% stake in Shanghai’s Container facilities. (Port Development International, 1993, p41)

4.5 Conclusion

To conclude this chapter the author would like to draw the attention to those who are involved in port privatisation in Madagascar that privatisation is not an end in itself. The government should bear in mind that the method adopted must match with the objectives behind the moves. The objectives are numerous but the focal target should be to enhance the efficiency of the port in order to meet the market needs, and thus to strengthen the national economy. Ill-considered privatisation can be very dangerous in so far as it may only operate a shift of the monopoly power to the private companies without achieving the objectives. It is definitely better not to go for it if that will be the case because it will create more frustration among all members of the port community particularly the workers and customers.

Privatisation may consists of a complete divestiture from the government or a partial private involvement where the weight of the public sector is still predominant or at least balanced with that of the private investors. The rationale behind is to overcome the lack of capital, and acquire management know-how and skills, technology and commercial practices in doing business.

The next chapter will focus on the possible option for port privatisation in Madagascar and explain the various steps that should be taken to best achieve this objective.
CHAPTER 5

PERSPECTIVE FOR PORT RESTRUCTURING IN MADAGASCAR

There is no doubt that it is very difficult to pretend to have a ready made answer to the question of how the port in Madagascar should be privatised. The author believes however that from the experience of others in this domain one can already start to build up a sort of departure point to achieve it.

In the DCPE, the Malagasy government made it clear that the retrenchment of the public sector from the business activities constitute the corner stone of the new national economic policy and the end result will be privatisation of more than 70% of the state owned enterprises (SOEs).

The port sector is part of this vast restructuring program even though it seems not to have the priority in the government agenda. The cautious attitude of the government can be explained by the fact that the process to privatisation is not an easy task and it is preferable to start with a less sensitive economic sector. Moreover, it needs time to be well prepared in order to be on the right track once the green light is given.

This wait and see attitude may also be justified by the reluctance of some groups due to all the reasons mentioned earlier related to the idea against privatisation. In any case, the author would not judge anyone on mere intent but would like to draw the attention to every person responsible that more time the government takes to proceed the more the value of the business is declining so that it will be very difficult to get the highest value at the moment of disposing it of.
The author recognises that the government has gone far in a very limited amount of time with regards privatisation in general and the process is now under way. The present chapter is intended to give a quick view on privatisation in general in Madagascar and to look at the perspective of implementing privatisation to ports.

5.1 Privatisation in Madagascar

5.1.1 Generalities

At the beginning of the 80s' after a period of nationalisation and predominance of the state in the economy, Madagascar started to return to a more classic liberal economic model. This effort has been continued after the turmoil situation of the beginning of the 90s', when the government oversaw the initiation of privatisation of the state owned enterprises. A more liberal investment code favouring foreign investment, liberalisation of the banking industry, and diversification of traditional primary product exports have been initiated. However, due to a certain number of factors, such as political instability, the actions towards privatisation remain very timid and the result was far behind the high expectations of everybody. In spite of this slow pace in the restructuring process, the government has taken a strong commitment to attain his objective, for instance the opening up of the local property markets to foreign interests. Non Malagasy citizens are now entitled to own and lease property of any kind up to 99 years with the completion of the transaction within no more than two months.

During the first campaign of privatisation in 1988 to 1992, 93 SOEs were privatised and according to the WB 105 more are left to be privatised.

Among the difficulties of privatisation in Madagascar is the outstanding debt of these enterprises for which the bill is as high as MGF 2300 billion or USD 560 million. Moreover, the problem related to the disputes with the former nationalised
foreign companies are not yet settled. It is estimated that it does not make sense to continue the campaign unless these questions are dealt with.

Recently a list of new 45 SOEs to be privatised was publicised by the government albeit all these difficulties, the first privatisation will be effective by the end of the year 1997. This proves once more the will of the government to go forward in the restructuring process and this is even confirmed by the creation of the Ministry of Development of the private sector and privatisation in the new government.

5.1.2 Background of privatisation

The economic and social situation in which the privatisation is taking place is not the most favourable. The government is working in a collapsing economy. From the 30 years of wastage and mismanagement. According to a recent WB report, 70% of the population are poor and 59% of them are very poor. The causes of the failure are the following:

- Investment and retained earning rates remain low at respectively 11.5% and 3.3% of the GDP. Private investment is only 4% of the GDP. The global government deficit is increasing to reach an average of 22% but reached 60% at the end of the year 1994. In the middle of 1995 the external debt was 166% and the debt servicing was taking 69% of the export value. (Razafintsalama, 1997, p1346)

However, the debt situation was reviewed in early 1997 in order to facilitate the structural adjustment program.

5.1.3 Legal framework of privatisation in Madagascar

In order to allow an efficient execution of the privatisation program the government enacted a comprehensive legal framework in 1996.

The Law n°96-011 governing the disengagement of the state from the public enterprises was elaborated. This main law is backed up by a series of laws and
decrees intending to facilitate its implementation, such as the Law n°96-012 governing the arbitration and settlement of dispute, the Decree n°96-782 fixing the procedure of designation and functioning of the organisms in charge of the execution of the program, Decree n°96-783 creating the privatisation funds, and Decree n°96-823 creating the social fund and support for the regional development.

The Law n°96-011 constitutes the basis for all privatisation in Madagascar. It is applicable to any enterprise where the state is involved directly or indirectly in the capital. The implementation of this law is extended even to the economic activities run directly by the state and other public juristic persons.

The mechanism of disengagement is defined by the provisions of the law and will concern at least two thirds of the capital of these SOEs.

The law is based on the following three principles:

1- The transparency of the procedures ensuring the fairness of the operations.

2- The operations shall be based on open competition, ensuring the best condition of divestiture for the state, therefore protecting the national interests.

3- The clear separation between the organism taking the political and administrative decisions and the executive organ of privatisation.

Therefore, the Privatisation Committee (Comité de Privatisation) was created, which is a sort of government proxy in charge of implementing the government program and the Technical Secretariat (Secrétariat Technique) in charge of the technical execution of the program.

This separation between the two organs is expected to overcome the possible political blockages that may arise during the process.
The law is innovative in the sense that it brings about the creation of a Privatisation Fund (Fonds de Portage et de Privatisation) and the Social Funds and Support for the Regional development (Fonds social d'appui au développement régional) whose objective is to help the people mostly affected by privatisation and those who are really excluded from the benefit of the privatisation funds, and to finance small projects from private promoters. Preferential loan systems will be made available to them in order to allow them to create micro companies.

The strictness of the law is expressed by the existence of all batteries of punishment felt to be necessary due to the importance of the stake and to eliminate the possibilities of infractions from the insiders and the infringement of transparency.

In the sectors where private monopoly is more likely to occur, the government should enact regulations directed to prevent this situation to happen.

5.1.3.1 The objectives of the laws on privatisation

The legislation is intended to improve the efficiency on the productivity of the enterprises concerned in the perspective of a sound management and within a competitive environment to create favourable conditions for private investors. Thus, it is directed to increase the role of the private companies in the whole business economy for the government to focus on the supply of pure social services. The outcome of the exercise is to reduce the government charges in the national budget. National operators should take advantage from the whole program.

5.1.3.2 The privatisation operation

The operation itself is done by transfer of management or property, equities or shares. However, the transfer of management is authorised only in the case of concession or leasing.
The list of the SOEs to be privatised should be determined by a government decree. As stated earlier, a list of the first 45 SOEs concerned was already published and they are classified into five categories:

- the major companies which are running well
- the companies which are functioning normally
- the companies which are in difficulties
- the companies which are bankrupt
- the companies which have totally collapsed and for which even the equipment and movable assets do not exist anymore.

5.1.3.3 Transitory measures

For safeguarding the employees interests, the government will design a special program of professional reintegration. Moreover, in order to smooth the execution of the campaign, all economic activities performed directly or indirectly by the government should be corporatised first and the state will hold the totality of shares in those new corporate companies.

5.1.4 The organs of privatisation

5.1.4.1 The Privatisation Committee

The mission of this committee is to co-ordinate and initiate the application of the privatisation program, and to ensure that its realisation is executed honestly, efficiently and with fair competition. The committee is composed of six members nominated by a government decree for three years renewable. Four of them are chosen from the public sector and two from the private sector. The committee gives its approval to the program prepared by the technical secretariat and sends the proposal to the government.
5.1.4.2 The Technical Secretariat

It is in charge of co-ordinating the work of the technical organs assuring the preparation and execution of the tasks.

It is composed of:

- One technical secretariat nominated by decree of the government and for three years as well and renewable.

- One director of evaluation whose mission is to ensure the follow up of indicators and the dashboard, the production of statistical information. He is also in charge of auditing and analysing the method used.

- One director of studies who is in charge of analysing the legal matters, the rights and obligations of all parties and finally the human resources management.

5.1.5 The Privatisation Funds (FPP) and the Social Funds and Support to the Regional development (FSADR)

5.1.5.1 The Privatisation fund

The willingness to give an opportunity to national investors is the driving force of the FPP. It consists of creating an organisation in charge of managing the government shares in the SOEs to be privatised. The SOEs which is devoted to privatisation transfer their shares for free to the fund. This organisation acts as a proxy of the state during the operations. Therefore, the fund is in charge of selling the shares respectively and by order of priority to

1- the employees of the SOEs
2- the Malagasy citizens
3- the companies and banks which majority of capital is in the hands of national interests

The reason is to offset the weaknesses of the national capital on the market. The existence of the fund responds to the needs of speeding up the whole process
because the government believes that the sale of those SOEs to the so called strategic investors should be realised quickly in order to limit some further depreciation of the assets, which will reduce their value and jeopardise their salvage.

While the strategic investors will get the majority of the shares and control the enterprise with at least 51% and no more than 66% of the whole business, the minority shares will be transferred to the fund and managed by a private person acting under a management contract that he signed with the committee. The term strategic investor is used to define those investors who are going to bring the majority of stakes in the business.

5.1.5.2 The Social fund and support for the regional development

The social funds and support for regional development is aimed at helping the underprivileged population against the unpopular measures necessitated by the operation. The FSADR is shared by the government and destined for funding job creation and revenue generator projects for a better social well being.

One of the strategies of the government is also to increase the public awareness and to sensitise every person involved in the operation of privatisation. Since social and economical problems might arise all along the process, studies and inquiries are needed before hand. This mission belongs to the committee which is now multiplying the contact with all concerned and meeting the workers, the unions and the management staff in those SOEs.

5.2 Towards private participation in ports

It is obvious that the situation of the secondary deep sea shipping ports does not differ from the other business activities run by the state. The general assessment of
the situation has been made during the symposium on maritime transport held in Toamasina in November 1996. The outcomes from this are the following:
- run down state of the port facilities (quays, sheds, and quay aprons)
- outdated technical infrastructures compared with the new technology in use nowadays
- lack of strategic development plan of the sector
- anachronistic regulations governing the port activities
- scarcity of capital for the maintenance and development of existing infrastructure preventing the port from any idea of extension

The causes of such a situation can be grouped under three categories:
- Insufficient means and lack of permanent marketing policy in the sector
- Instability of the government policy with regards to the management system
- Absence of co-ordination and lack of synergy between all the parties involved

It was not mentioned in the resolution of this symposium but the author believes that the failure could also come from the lack of motivation and a real commitment of the management team of the ports themselves. The author has in mind the lesson from the course on improving port performance that it is easy to take someone else as an excuse when the managers themselves have not done anything to correct the bad management practice. This is felt by the author from his personal experience with civil servants who do not have self management attitude. Nobody has taken up the issue for a long time hiding behind the excuse of financial problems or fear of the hierarchy pressure and so on. This situation is worsened by the limited number of port experts. The author gave a questionnaire to the port service of the MTM in this respect and the result was mentioning a considerable shortage of qualified personnel. The situation is whether the port manager is trained on the job or they have undergone short training program.
From there, how should port privatisation be undertaken in Madagascar?

5.2.1 Basic conditions

Since port privatisation in Madagascar would start from scratch, it is important to learn from world-wide experience and the difficulties that others have come across. This would be very beneficial for the country instead of reinventing the wheel this will help to save resources and time in the initiation of the process.

5.2.1.1 Need for political commitment and strong leadership

Saying that the port business is the same as other economic activities is not completely true because ports always involve a question of national strategy. For an island like Madagascar ports are of high national interests since more than 80% of the foreign trade is passing through them. Hence forth, considering port privatisation is a very sensitive matter knowing that privatisation implies sometimes if not often participation of foreign interests. This becomes more and more common in world globalisation. In the case of Madagascar for instance, the concept of strategic investors, which can be a foreign company, is included in the system. These investors are allowed to have majority shares in the stake. It is evident that without a decisive leadership and political strength from the government the process would be crippled by many objections which will hinder the success of such undertaking. Therefore, the government should always seek the general agreement of everybody and to explain the inefficiency of the public sector operations and the consequences of such lack of efficiency on the overall economy. (Martens and Boatman, 1994, p8)

5.2.1.2 Need for clear objectives and goals

As mentioned earlier in chapter four, privatisation may be driven by different specific objectives. It is then of paramount importance that there is a clear understanding of
what the government wants to achieve by privatising the ports. In any case both the objectives of the government and that of the private investors should not enter into conflict because it may cause the process to fail. It is necessary to find a common ground between these two objectives. For instance, the government may want to modernise the port infrastructure and equipment through private capital but the private investors do not want to contribute to expensive civil work or to carry out major investment in new equipment. In this extreme case the objectives of the two parties do not meet so the contract cannot be signed and may need further negotiation. This stage is very often lengthy because no one wants to give up his position easily. After all, it is proper to any business to find a compromise. The government negotiation team should be experienced and master all details of the bid in order to get the best possible deal.

5.2.1.3 Pre-privatisation actions

It is quite clear that the current situation of those secondary deep sea shipping ports is not the most favourable to attract private investors. As mentioned earlier, they are crumbling under heavy bureaucratic control, political machinations, lack of experienced management and shortage of capital. Thus, the government must take a clear and unambiguous decision to give them freedom and opportunity to reorganise and resolve the in-house management problems prior to any privatisation. This can be done by means of decentralisation or corporatisation.

The government should also take steps to upgrade the hinterland road connections. It might be argued that this is asking too much from the government; nevertheless, it has been proved in many countries, such as Brazil and Mexico that insufficient government attention to upgrade these infrastructures has been a real barrier to port privatisation. (Phillips, 1996, p4). In Brazil for instance the government was obliged to seek external funding to overcome this particular problem when a Japanese bank pledged to contract a loan of 1.2 billion USD to finance infrastructure projects and road construction.
5.2.1.4 Need for new legislation

The existing port regulations are by no means suitable for such restructuring project. A new legislation should be elaborated which should bring about a new mind set on doing port business, taking into consideration the latest evolution in international transaction and peculiarities of the port sector of activities. The new law should open the door to a far more liberal commercial regime of port activities in Madagascar. This is proved to be one of the key successes of ports in New Zealand. The Port Act 1988 was enacted to promote and improve the efficiency, economy and performance in the commercial aspects of ports. (Cooper, 1991, p231) After this regulation was implemented the management considered the ports to be fitter, leaner and better managed.

This regulation should then preserves the interests of all parties involved and should avoid any conflicting area between port operators and the government. The area of concern of the government should be common or public interests, such as the safety of navigation in the harbour and approaches, maintenance of the harbour basins and the approach channel depth, environmental matters, the transport network to and from the terminal to keep a good cargo flow.

The author believes frankly that a stronger policy about port privatisation would even require a specific law as the Port Privatisation Act of 1990 in Malaysia.

5.2.1.5 Need for good valuation of the port business

The valuation of the port before privatisation should be given a great deal of attention because the lease payment or the sale price will depend on it. In this respect Richard Sidery said:

"When the views of buyers and sellers as to the value of the business converge, the chances of successful privatisation increase" (Cass, 1996, p58)
Therefore, when valuation is right the two parties are more likely to make the right decision. There are various methods of valuation such as the earnings based valuation; the asset based valuation; the market based valuation and the industry specific method.

Whatever method is used, the government should always pay great attention so that the port is not undervalued to the detriment of the national interest and the tax payers who contributed to its functioning up to the time of privatisation. The key is that the government should get the highest return on the assets and not in the position of subsidising private affairs instead; thus, sacrificing the national interests, which is not the aim of the process.

5.2.1.6 Preparing the human resources

According to Mike Daunt, the Trainmar co-ordinator at UNCTAD, once the decision to privatise has been taken the ownership becomes the focal point of any discussions and receives all attention. He argues that:

"...this is dangerous, particularly in developing countries where the underlying objective should be to ensure that efficiency improves through different management and greater motivation, that is to say through the way people behave". (Daunt, 1993, P11)

He continues further by saying that:

"Results are likely to be very disappointing unless people, the human resource, as distinct from infrastructure and capital equipment, are made a focal consideration from the early stages". (Daunt, 1993, P11)
Privatisation brings extensive changes to the port workers. In other words, without planning these changes carefully the results may be devastating and lead to social tension, which in turn will undermine the whole process. As a matter of fact, privatisation is very often associated with loss of jobs rather than creating jobs. Therefore, the workers are hostile to it. To limit this turmoil among the workers a clear policy should be set up so as to mitigate the effect on them. The best way is to make everybody aware of the benefits of privatising and the economic repealing effect brought about by the port once it is run efficiently by private operators like the creation of many value added activities within the port and even the birth of new port related activities outside the port.

There is also a need for training or retraining of the workers so that they can be flexible enough to face the eventuality of change in the future.

5.2.2 Phases of port privatisation

After achieving the pre-privatisation step the government is now ready to go to the next step, which is the implementation of the privatisation program itself. Once more the experience from others is valuable in this respect.

Robin Martens and Ed Boatman discussed in large the phases of privatisation. (1994, p8) The following is a large extract from this paper.

5.2.2.1 The orientation phase

Before any particular ports or terminal is to be privatised, the government should have an overall strategy for the port. The reason is to avoid privatising the most profitable element first, possibly resulting in difficulties of privatising other terminals or services in the port.
In Panama for instance as part of feasibility evaluation of a container transhipment terminal, Frederic R Harris transport consultant created a new operating entity, required to attract a private operator. The idea was to set up a mixed capital organisation to run, administer, construct, equip and operate the terminal.

5.2.2.2 The feasibility study phase

In this stage an assessment has to be made with regards to two elements.

First, analysing the project’s environment. Here the use of strategic planning techniques, such as SWOT analysis can be of a particular importance. It consists of weighing the strengths, weaknesses, opportunities and threats of the privatisation project in order to have the optimum way to overcome the difficulties or to minimise their impacts and to optimise the strong points.

Secondly, the private participation options, such as sale, concession contract or other methods will be put under scrutiny. At this stage will also be re-assessed the legal framework and adjustment will be made as need be in order to avoid any conflicting area.

As illustration of this phase, Harris consultant has been involved, prior to privatisation, in the process of evaluating the port operations in Panama and Colombia. Afterwards they gave recommendations on what port services are more likely suitable for privatisation.

5.2.2.3 The realisation phase

At this stage are made the final decisions towards privatisation of the port. This phase includes.

• The government clear decision, based on the study and feasibility analysis done in the earlier steps.
• The issue of pre-qualification document.
This document will be a comprehensive and complete document including all necessary information and conditions of the project to allow competitors to measure the risks if there is any and to evaluate their commercial interests. It will include as well details of the requirements in order to limit the tendering to suitable and serious companies. The bidding companies are also required by this document to give all in formation about them, such as financial possibility, past performance, expertise in the field and any other necessary information. Such requirements should not be too stringent because this can hinder the outcome of the project. The case of the port privatisation in Argentina illustrates very well the difficulties of excessive requirements leading to a long delay in the completion of the project.

• Preparation of a short-list of suitable companies and issue of bid documents.
After the analysis of the information given by the potential bidders, a list of pre-qualified companies can be established and bid documents will be developed in collaboration with the entities in charge of executing the transactions, a merchant bank for example. The companies selected will participate in the tendering and will receive the bid documents.

• Evaluation of the bid documents and selection of the best company.
Based on the bid documents received, the government assisted by the entity executing the transactions will select the most suitable partner for negotiating the final agreement. After the negotiation is successfully settled, the agreement can be signed.

The Nicaraguan privatisation process shown in the figure below presents more elaborated phases but the different stages are covering the same steps.
5.2.3 The possible choice for restructuring method in Madagascar

The author believes that in order to attract the strategic investors, the three deep sea shipping ports should first undergo a major in-house restructuring and only after that could they be sold to private interests. What does the author mean by in-house restructuring? This is simply to organise the port in a more liberal and commercial manner. The port should be given an independent status as a juristic person and it should be responsible for its business. In other words, the port should be self sufficient and financially independent. The subsidisation from the government prevent the ports to have a financial bottom line so they do not fear making loss.
The port should pass on to the users the cost of the service they are offering to them. In any case the present situation does not give any guarantee of sound commercial environment suitable for private capital.

The port should first be corporatised so that the government will be the full shareholders but entrusts the management to a body which will be accountable to it regarding their financial results. The corporate body should be given total autonomy of actions with regards management style. It should also be given extensive freedom to seek funds on the capital market if they need to do so. The funds can be guaranteed by the government or other institutions if the financial situation of the port does not give enough assurance to the funding organisation. This is a transition system prior to genuine private participation. However, the government should not stop at this stage but should proceed to privatisation because there is always a risk of government influence at this stage. Once the port is announcing a sign of recovery, the government should immediately initiate the privatisation scheme. This has been the method used in Malaysia for instance, and it has many advantages, such as preventing the government from rushing to premature privatisation.

As far as the after corporatisation is concerned it is difficult to speculate on what method should be adopted because this choice depends upon many factors that must be analysed and balanced in order to arrive at the best proposal possible. However, the landlord type of management adopting the leasing agreement system or the concession contracts system is perceived to be the most appropriate because it combines the advantages of giving the government ceaseless control on the port and yet permitting the private investors to work in a commercial environment.

In any case, the privatisation methods should always correspond to the objectives of the government as stated earlier. It is however quite natural that due to the size of the secondary deep sea shipping ports and the level of traffic a single operator
alternative in each port, that is three different operators, would be the most suitable choice. These operators should be encouraged to sub-contract some services to other private operators in order to increase the efficiency of the ports as services providers. In definitive the choice will be driven by the fact that the privatisation should not be a profit maximisation but to increase the port efficiency in meeting the customers' needs. The end result should be to enhance the competitiveness of the country's ports to attract trade.

A model for private participation in port is given in the **appendix 3 page 113** as a reference on what could be a practical example of the process.

5.2.4 Requirements for private participation

The experience of a number of ports, such as Hamburg, Rotterdam puts in light that the objective should be the creation of an area for commercial activities of private enterprises. (Behrendt, 1996). The role of the government should not interfere in the commercial side but remain at the following activities:

- setting up of legislation for the port and port activities, and elaborate general policy for the port development
- planning, building and maintaining of port infrastructure
- taking care of the safety of navigation and the traffic control in the port approaches
- leasing out land to interested enterprises

The genuine port business should be left to the private companies, such as cargo handling, storage, processing of goods, and movement of goods.

The stumbling block of the system is the criteria of awarding the leasing contracts to the private companies. The beneficiary companies should meet the following requirements:

- the enterprises should first run a port related business
- the business should be of reasonable interest for the port and its customers
- the size and the locations of the enterprises should meet the possibility of the port
- the enterprises should create employment and add value

The amount of investment to be made by the public side as well as the contribution from the private companies in building the superstructure should also be put under scrutiny. The government should not subsidise the private business unless the country is benefiting from it.

5.3 Conclusion

The disengagement of the public sector from the business activities is now fully recognised in Madagascar. Various regulations have been produced by the government as part of the process and marking the state's good will to face the reality and to launch a genuine economic development for the island. At this moment however, the port is not yet on the agenda of the government.

The author reckons that this sector deserves the attention of the policy makers and the decision makers because ports are one of the engines of the national economy as a whole. Their current situation is known to be inefficient, coupled with heavy bureaucracy, corruption and political influence; therefore urgent remedy is needed. All along this chapter the author tried to point out the different steps prior and during the privatisation phases.
CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Recommendations

In this dissertation an attempt was made to raise an important issue regarding the future economic development of Madagascar. A number of relevant factors prerequisite to an efficient and competitive port, considered to be the Achilles heels of the economic development program, have been passed in review. Even though this paper cannot pretend to cover all the aspects of this vast and complex topic, the author hopes that it can be referred to for any future port restructuring project in Madagascar.

Therefore, a successful port restructuring can only be achieved after paying serious attention to and taking decisive steps towards the following issues:

6.1.1 Awareness

All the economic operators in Madagascar should adopt a new mind set with regards the way of doing business and they must bear in mind the important role played by the ports in enhancing the national economy. Many people seem not to be aware of the evolution of the international trade through liberalisation and globalisation. These two concepts have pushed the international transport system of which the port is a vital part; to play a more active role in the chain of production and distribution. The change in business practice is a paramount to the success because the breakthrough in communications technology and transport has not yet reached its maturity since more changes are still expected to happen and will bring an ongoing shift in the commercial practice world-wide. Without the people being
aware of what is happening elsewhere and without this change in the manner of doing business any effort to develop the port will be in vain because port restructuring is not an isolated process. The nature of port business itself as a service industry should make them customer oriented. Therefore, they should be managed on the same line as the customer's requirements. If the port is not on the same line as its customers, problems will definitely arise and the customers are never wrong since they can always pass onto the final consumers the cost incurred by the inefficiency of the port or they can choose another port if their needs are not satisfied. It is then the role of the government, which is presently the direct manager of the ports, to conduct a campaign to make everyone aware of the situation. This is in fact a kind of marketing and it should really be done in such a way that the port users will identify themselves as a community. The author is convinced that this lack of contact between the port community is very harmful to the port business. It might be argued that ports are already having contact with their clients in Madagascar but according to the author this contact should be done more actively than it is now.

6.1.2 Preparing the ground for privatisation

Some governments think that privatisation is the remedy to all ills and it suffices to privatise to make the miracle occur. Madagascar should not get into this trap because the disappointment and frustrations will be much worse than before in case of failure. For these reasons decision makers should bear in mind that privatisation is an ongoing process from the beginning until its completion. As one knows already the most criticised aspect of privatisation is the fear of job losses. To overcome this problem the government and all SOEs management should build up a scheme to retrain or to instil new specialities to the workers to make them ready to face the necessary changes. According to the author, privatisation, even though appearing as a synonym of job cut down process, has serious advantages far better than a publicly run business. The author is here taking the particular case of Madagascar. The economic multiplier effect brought about by privatisation is for instance one of the good sides of it. However, these opportunities can only be turned out to real
advantages if the work forces are ready for it and if they are well trained to handle the new technology and modern management system necessary for the new environment.

It has been proved in some countries that port restructuring has failed because the government has not performed its duty, which is to improve the hinterland connection linking the port to the production centre or the consumption area. The Malagasy government should therefore find a way to raise funds to construct new paved roads if not highways and a new railway system to facilitate the flow of goods to and from the ports. Feeder roads should retain their particular attention because the main axes are most of the time very far from this area. It is strongly advised that this matter be dealt with as soon as possible in order to attract the private sector to invest in the ports.

6.1.3 Create new legislation

The current port legislation is completely obsolete and does not correspond to the need of a modern port business anymore. It does not fit the privatisation process. The government is then strongly advised to draft and enact a new law pertaining to the port sector of activities. It is very important that special provisions if not a separate law is introduced in this new legislation regarding private participation. This is necessary to avoid any unclear situation with regards the right and the obligation of the parties involved.

6.1.4 Port business valuation

The government should be very careful in the port business valuation method and it is strongly advised to take advice from experts in this matter. If the government fails to come up with realistic figures, it may end up in a situation of subsiding the private business. If the ports are overvalued, the private may be reluctant to invest. The
valuation should always take into consideration the potentiality of the port for future trade and not only in terms of assets.

6.1.5 Transition from public to privatisation

To facilitate the take over and to avoid a turmoil situation in the ports that are going to be privatised, the author would like to suggest that the government set up a transitional management body or a corporate body to manage the ports. The aim is to perform some in house restructuring of the managerial approaches. In other words it is to give the port free hands in operating the facilities on a commercial basis. The corporate body would then finalise the detail arrangement with the private companies and co-ordinate the re-conversion and the retraining of staff affected by the process.

6.1.6 Competitive environment

The government should refrain any attempt to install a monopolistic situation when the privatisation is completed. This issue has been taken up by the new law on privatisation and this is one of the good aspects of this law. When the private operators attain the cruising speed in the operations, some ports will definitely be affected by the competition. Therefore, the government should already set up a clear policy about these small ports and find the best way of utilisation. Those ports might constitute a lifeline for the region. The government should decentralise them and give the management to the municipality. If the government still continues to subsidise them, the other ports would not be very happy with that situation since it could create unfair competition against them. Madagascar has recently adopted new decentralisation system backed up by new laws on the rights and obligations of the new administrative region created. This is a good opportunity for the government to implement these new regulations, which give the local authority the consideration of levying taxes on economic activities as well as certain administrative autonomy. This was the case in Nicaragua where the privatisation
process dealt with assessing the strategic role (in a commercial sense) each port in Nicaragua played. Ultimately they were able to come up with the solution to transfer to the municipality the ports, which were not considered of national significance.

6.1.7 Avoid the drawbacks of the MEBO system

The government is strongly advised not to over emphasise the employees' participation in the new venture. It has effectively been proved elsewhere that this system cannot really raise the necessary level of the capital needed. This could result in a low financial credibility of the business. In Poland for instance the new businesses were not able to develop sufficient means for new investments. Moreover, in Poland according to the professor Andrzej Tubiele Wicz (1995, p20), the practice has proved that small port businesses, especially the stevedoring companies, do not generate good conditions for intensive development or even for survival.

6.2 Conclusion

It has been discussed here that port businesses have nowadays entered a completely new era in which the prominent concepts are liberalisation, globalisation and logistics approaches. Due to the shift in the production centre and the incentives brought about by the far reaching technological evolution in shipping and the telecommunications system, a new type of international transport system has come into existence. The world has become smaller and private companies are keen on implanting their business where they can get the most competitive position in the market. Ports as part of the whole game are bound to follow the moves and change completely the port management system. Competitiveness and efficiency are presently the master words and most of the time they can only be fulfilled by investing hundreds of millions of dollars in port infrastructure, equipment, dredging and training. Governments have not been able to afford such scale of investments and Madagascar is not an exception to this situation.
It is already the intention of the Malagasy government to open up the ports to private investors to make them efficient. However, as mentioned before, the process is not at all easy but needs strong commitment and decisive leadership from the government.

The author is confident about this good will shown by the government and the publication of the package of legislation governing this move is a good sign for the future.

From world-wide experience there are various alternatives for port privatisation, but there is no formula that could directly be applied to the case of each individual port or country. It depends upon the policy makers to find out the right formula. The point that the author would like to make here is that the methods should always take into consideration the reality of each country and each port but mostly the government port policy.

It is obvious that Madagascar is not yet in the favourable situation to handle this change; therefore steps must be taken towards this objective. Much remains to be done prior to privatisation and it could be a solution to start doing something as soon as possible and not be surprised at the crucial moment.

Finally, the author is frankly convinced that even if ports are not yet privatised, they can be more efficient if the government is willing to grant the port managers to run them commercially, free from political influence and heavy bureaucracy. Port managers should always be abreast of the latest trends in the business and be allowed to apply their skills and know-how without being threatened by anybody.
BIBLIOGRAPHY


Lloyds List 'Ports move on privatisation'. Lloyd's List on Disk, October 29, 1996b.

Lloyds List 'Productivity soars at Colombia, port privatisation success leads to an unforeseen boom'. Lloyd's List on Disk, June 7, 1997b.

Lloyds List 'Puerto Limon sell-off call'. Lloyd's List on Disk, March 20, 1996a.

Lloyds List 'Singapore Port signs Aden Hub Contract'. Lloyd's list on Disk, June 18, 1997a.


The Baltic and International Maritime Council.


Decree n°67-550, December 19, 1967, governing the organisation of the commercial ports in Madagascar.
Law n°96-011, August 13, 1996, governing the disengagement of the public sector from the state owned enterprises in Madagascar.
Appendix 1

By using the regression method to find out the trends
the linear regression equation, \( y = a + bx \) will give the predicted value for the given
values of the independent variable \( x \).

\( b \) is calculated by the formula

\[
 b = \frac{(n\text{SumX1Y1} - \text{SumX1SumY1})}{(n\text{SumX}^2 - (\text{SumX1})^2)} \\
 b = \frac{(3 \times 2062.335 - 6 \times 980.201)}{(3 \times 14 - 12)} \quad b = 50.97
\]

\[
 a = \frac{\text{Y'} - bX'}{a = \frac{980.201 \times 14 - 6 \times 2062.335}{3 \times 14 - 12} \quad a = 227.8
\]

\( Y = a + bx \), that is \( y = 227.8 + 50.97x \)

Therefore trend is \( T = 227.8 + 50.97x \)

Table 1 Calculations by spread sheet

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
<th>XY</th>
<th>X²</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>278,86</td>
<td>278,86</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>320,548</td>
<td>641,096</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3,0</td>
<td>380,793</td>
<td>1142,379</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>980,201</td>
<td>2062,335</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>a</td>
<td>227,8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>50,97</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2

The graph giving the trend of growth in cargo volume for the port of Antsiranana.

![Trends of cargo volume](image)
Appendix 3

A model of privatisation for the secondary deep-sea shipping ports in Madagascar

This model is opting for the concession or leasing contract alternative, following an international tendering process for which interested bidders would have to qualify. The pre-auction qualification period should last for example 25 weeks.

- The winner should earn the right to use the facilities of the port, but should also have the obligation to subcontract a determined number of services to third companies.
- The period of concession should last 25 years with the possibility of renewal for another 15 years provided that a total investment of 5 million USD is made during the concession.
- For compensation for the use of the port, the winning bidder should remit to the government or the national port entity a concession duty upon signing the agreement and a user's fee as a percentage of net annual profits. The concessionary should pay income tax for each fiscal year.
- The concession should include fixed and movable assets in the current inventory.
- The concessionary, as an official operator of the port, should be allowed (a) or obligated (b) to offer the following services: (a) in free competition, pilotage, towing, loading and unloading and supplying to ships if so desired. (b) Related to usage (subject to payment of a user's fee), leasing of berths, lying up/casting off ships, cargo management, storage and specific supplier (water, bunkering, electricity)
- The obligations of the concessionary under the agreement are: Maintenance and
improvement of infrastructure except when damage is caused by natural disaster, guarantee a common user system, provide the national port organisation with the necessary audit document for statistical purpose, make sure that the port is offering all assistance to safe manoeuvre and navigation, hold proper insurance covering the infrastructure; damage to cargo and third party liability, observe the rule for extension and conducting civil works within the port perimeter.

- As financial obligations, the winning bidder should have (a) a minimum working capital of 300,000 USD upon signing the agreement, (b) fulfil guarantee of 250,000 USD throughout the concession, (c) invest during the first 10 years according to a port business plan.

- The government should be committed to build the trunk and feeder roads inside and going out of the province of Antsiranana

- The tariff should be set freely by the concessionary in the most appropriate practice.

- The concessionary should be free to hire his own personnel, in compliance with the labour regulations and giving priority to the former port labours.

- The operator’s past experience should include the capacity of handling 500,000 T of cargo annually.

*The figures given in this model are fictitious but not based on any specific study.*