1985

Panama 2000: a strategy for national maritime development

Ivette Ng de Tejada

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A paper submitted to the Faculty of the World Maritime University in partial satisfaction of the requirements of the GENERAL MARITIME ADMINISTRATION COURSE.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the UNIVERSITY.

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PANAMA 2000:

A STRATEGY FOR NATIONAL MARITIME DEVELOPMENT

By

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from

PANAMA

A dissertation submitted to the World Maritime University in partial fulfillment of the requirements for the award of a Master of Science degree in General Maritime Administration. This dissertation was directed by Dr. Ahmed Abdel-Monsef.

Malmö, Sweden, 1 November 1985.
I wish to dedicate this dissertation

TO MY MOTHER,  
for teaching me in the crib to love my country.

TO MY HUSBAND,  
for showing me with his example how to love it.

TO MY SON,  
for giving me the reasons and the courage to do it.

AND TO PANAMA,  
for letting me be a Panamanian.
ABSTRACT

This is a dissertation on the evolution of maritime activities in the Republic of Panama and on the possibilities of increasing the benefits that the country derives from them during the period 1986-2000 and beyond. It has been written to allow Panamanians to take a look at their national maritime history and institutions, and to try to lend them the intellectual tools for devising ways in which to foster the growth of these activities in the country.

In the document we present a very strict conceptual framework, that is, that this dissertation has been written within the context of the United Nations Convention on the Law of the Sea, 1982 and the Panamanian Government's current economic and social development strategy. The body of the dissertation itself is composed of three parts, although these are not identified as such, which are: Panama's maritime background, the Strategy for National Maritime Development that lies at the heart of this effort, and a description of the current situation and perspectives of each one of the major components of the national maritime sector, as we have defined it herein.

With this dissertation we wish to underscore the fact that Panama is a Maritime Nation and that, despite the haphazard way in which its maritime act-
Activities seem to have developed, through a correct application of remedies, including extensive training of marine personnel, reinforcement of infrastructures, and a strengthening of the "healthy climate" for investments in maritime affairs. Panama will be able to achieve its full maritime development by the target year 2000. The achievement of strategic goals outlined as part of our Strategy, moreover, should pave the way for Panama to make the best use possible of its number one natural resource, its unique geographical position and configuration, for improving the standard of living of its people and for supporting the diversification of the national economic structure into other export-oriented areas of human endeavour.
In the course of researching and preparing the final copy of this dissertation, we have acquired a great moral debt and many goods friends. Resident and visiting professors, and the staff of the World Maritime University, have graciously provided the basic intellectual and logistic support. The many governments and private shipping and ports organizations that hosted either individual or group visits to Norway, The Netherlands, Sweden, Egypt, Portugal, the Federal Republic of Germany, United Kingdom, Denmark and Poland have been uncommonly good in helping us locate materials and information, and also in sharing their valuable experience with us.

Dr. Ahmed Abdel Monsef, Dr. Gamal Moukhtar, Dr. El A. Georgandopoulos and Dr. Edgar Gold shaped this document. Their excellence is not only academic but moral. To them we owe the respect of a student, the acknowledgement of a daughter.

My friends and colleagues at the University helped me to push forward by nurturing my questions and worries. Some others helped by playing lovingly with my five-year old son, Edgar, while I worked. To K. Ramadas, L. Kitchin, A. Massawe, A. Martinez, M. Cissoko, I. Sompare and many others, my love and thanks.

This acknowledgement cannot proceed further without mention of my great friend, Julio César Gon-
zález, whose bountiful cheerfulness, care and help lightened the burden of those last, long and tedious weeks of drafting. He is also to be praised for the beautiful drawings and figures that will undoubtedly please the eyes of our readers. To him go my heartfelt gratitude and daily prayers for the very best.

I must finally thank all the members of my family, but specially my mother, sister, husband and son. They helped to pay for my stay in Sweden with much sacrifice of work and love. They kept me going with telephone calls, letters and visits. And they always kept their faith in me. May God allow me to compensate their unfailing support.

To all, and to my dear country, PANAMA, thanks for helping me to grow....
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INTRODUCTION

The Republic of Panama is a small developing country located between 77° and 83° W and 7° and 10° N, approximately in the middle of the American continent. (See Figure 1). To most people perhaps it is just one of the Central American "banana" republics. To traders and shipping people, however, Panama is one of the great crossroads of the world, an S-shaped isthmus 80 kilometers at its narrowest and 193 at its widest that has facilitated trade over centuries.

In a world increasingly characterized by the awareness of nations of the importance of maritime affairs for their economic and social development, as well as by their just demands to gain greater participation in such affairs, an analysis of maritime developments in the Republic of Panama is not only appropriate but necessary. As the country with the world's second largest merchant fleet under its flag, Panama's handling of its open registry is constantly scrutinized, not to say attacked, by a variety of interests. As the country that hosts one of the world's three major interoceanic waterways, the Panama Canal, Panama is also the target of attention and concern. Yet despite the apparent acknowledgement of its importance for world trade and development, an understanding of the reasons
Fig. 1. Panama's Geographical Location
why this small Third World nation commands such a key role seems to escape even the most learned of shipping men.

_Panama 2000: A Strategy for National Maritime Development_ is a dissertation on the evolution of Panamanian maritime activities and on the possibility of increasing the benefits they generate over the next fifteen years. We have written it to allow Panamanians to take a necessary look into their own maritime development in a historical perspective, and to lend them the intellectual tools for analyzing the present and for planning the future. With this work we hope to pave the way for an increase in the economic activity that accompanies growth in the maritime sector, and to see the country steadily develop into a full maritime nation by the year 2000.

On the basis of our stated goal, we have structured the body of this dissertation around three basic levels of analysis: a chronology of the evolution of maritime activities in the Republic of Panama; a description of the National Maritime Development Strategy that lies at the heart of this dissertation; and a comprehensive overview of the national maritime sector, including present structures and development trends, as well as our ideas on how the country can work to improve the sector's present economic performance by implementing the strategy we propose.

Following this Introduction, the reader will find, first, a chapter discussing Panama's maritime
background. We then proceed to introduce our strategy for national maritime development in the Republic of Panama; we do this by first giving a comprehensive overview of the economic and social performance indicators of the national maritime sector as a whole, before detailing the set of goals that we have used here to define our strategy. The latter are listed individually and can be said to usually apply to one of the components of the national maritime sector, although there is some overlapping in the goals because of the intrinsic interrelatedness of maritime affairs.

The following chapters deal at some length with the different maritime activities that are carried out in the Republic of Panama. The chapters are generally divided into a description of the present situation and a look into how the strategic goal(s) defined for the specific activity can be put into practice. In this way we discuss Human Resources, The Open Registry Fleet, The National Ports, National Maritime Ancillary Industries, The Panama Canal and Fishing.

In dealing with subject matter we have outlined in the preceding paragraphs, we have obviously strived to adhere to the objectivity that must characterize all research papers such as this one. Our work has been affected, nevertheless, by the general lack of hard facts, especially as regards the economic and social performance of the different activities and industries, and by the virtually total absence of publicly-available government policy statements regarding our topic.
Another limitation we must signal here refers to the conceptual framework under which we have produced this dissertation. This has not been an exercise in free-thinking, but rather an attempt to make developments in Panamanian maritime affairs begin to fall into a more coherent, formal pattern. We believe this is the only way to approach development in any field, and that this focusing on goals and concepts, and on long-range planning as per internationally-accepted standards is the best step forward.

As a consequence of the above, after much research and consultation with experts in the field, we decided to give our strategy the overall framework of both the United Nations Convention on the Law of the Sea, 1982 (better known as UNCLOS III) and on the National Development Strategy being implemented by the Panamanian Government. As far as UNCLOS III is concerned, we feel it should provide the guidelines for developing not only shipping, but all maritime affairs in the Republic of Panama, despite the fact that it is an instrument not yet in force. This convention represents, in our modest opinion, the umbrella legislation that can best provide for an orderly exploitation of sea-related activities for the benefit of all nations, and its concepts are of such a valuable, universal nature that they should be embodied in national legislations independently of constricting political considerations.

By adhering to the essence of Panama's current development strategy, we are basically trying to offer
our compatriots and decision-makers the opportunity
to work within existing policies and institutions as
much as possible, to avoid major disruptions that will
benefit no one. This does not mean that we do not en-
visage some changes, but these should be of a minor
character over the next fifteen years, while the ground-
work for solid maritime development is being laid. By
the year 2000, when the strategic goals we have outlined
here have been achieved, the time will be ripe for sug-
gesting and putting into practice administrative or
other reforms of a greater magnitude.

This dissertation, then, has been constructed
around the national economic and social development
strategy of Panama, and not as a separate or alternate
idea. We generally agree that the stated goal of improv-
ing the quality of life of the Panamanian people by in-
creasing national wealth and exports via the exploitation
of new and traditional sources of revenue, by integrat-
ing the country socially and regionally, by strengthen-
ing its institutions, and by developing further the na-
tional identity is a sound development strategy for our
country, given its particular historical and geographical
conditions.¹ We believe, furthermore, that the centering
of our economy around the tertiary sector as a way of
generating the income needed to sustain our young and
fast-growing population and to obtain the seed capital
for future diversification is not only wise, but perhaps
the only alternative we have. Due to this fact, in this
document we do not touch upon the extremely controver-
sial issues surrounding open registries, the international banking and insurance centers, the Panama Canal and other so-called factors of dependency, but rather attempt to deal with them in a constructive and open manner, simply assuming that discussing these issues here would be of no avail in shortening the gap between the different points of view and that, in the meantime, the world cannot stop and the Panamanian people have a right to continue existing and prospering to the degree that they contribute to world society.

We finally wish to mention in this introductory section, that this dissertation must be considered only as a preliminary attempt at understanding the complexities of "Panama, a Maritime Nation". As a pioneer work in this field, we have only been able to briefly study institutions and their development, but we feel that there is ample room for further research work by Panamanians interested in maritime affairs, especially in the following areas: the role and potential impact of national seafarers within the Panamanian economy; the real costs of training for Panama's full maritime development; the role of maritime training as an effective means for the transfer of technology to Panama; the optimum maritime administration setup for Panama; and guidelines for implementation of UNCLOS III by the Republic of Panama.
CHAPTER ONE

PANAMA'S MARITIME BACKGROUND

Although not always a major shipping nation, the Republic of Panama does have a 500-year long tradition of close association with the seas, a fact that undoubtedly allows us to state that it is a maritime nation. From its humble origins in the small fishing village of "Pannaba", which means "abundance of fish" in native Indian language, Panama has developed into a major maritime Flag and Coastal State where growth and progress are somehow always linked to the exploitation of the country's main natural resource - its geographic position and configuration - via the seas and sea-related activities.

The Colonial Period (1501 - 1821)

The Republic of Panama was discovered in 1501 by the Spanish conquistador Rodrigo de Bastidas and visited by Christopher Columbus in 1502. Since its discovery, awareness of the strategic position and configuration of the Panamanian isthmus began to play a preeminent role in national development. It can be justly argued that the basic features and nature of the Panamanian economy were shaped during the early colonial years and that it is intimately tied to the
interoceanic transit zone which is, in turn, largely determined by the three key geographical factors that are uniquely present together in the area: the narrowness of the isthmus, the absence of high mountains, and the presence of the Chagres River. These particular features of Panama became evident early on: according to some historians, the importance of its pass-route was already obvious by 1513, right after the discovery of the Pacific Ocean by Vasco Núñez de Balboa, who first sighted these waters from a place in the Panamanian jungle not distant from the first mainland colony founded by Columbus, Santa María de Belén.

Its singular features thus defined, Panama soon became of vital importance to the Spanish Crown. In fact, it has been often stated that, although it was not a principal productive or mining area, quite unlike other regions, Panama was the only one in the New World that gained strategic and commercial importance on the sheer basis of its geography.

During the colonial period, Panama was a major transshipment center for goods coming and going to and from Spain and its American colonies. Passage was effected through the isthmus via a combination of river and road transport, using the Chagres River along its navigable course. The embodiment of this role were, however, the famous "Fairs of Portobelo". Portobelo, a Caribbean port founded in 1597, hosted these renowned trading fairs until the mid-eighteenth century: "the Spanish galleons arrived in Portobelo loaded with wares
that were traded for other goods coming from Ecuador, Peru, Chile, Bolivia and Argentina. The fairs lasted forty to fifty days and goods worth many millions of pesos were traded. Furthermore, as shown in Figure 2, port development in the Pacific and Atlantic coasts of Panama was significant for the times.

A further evidence of the fact that Panama was increasingly coming to be recognized as a major crossroads were the constant attacks on isthmian towns by corsairs and pirates. Such attacks led in time to the discontinuance of the fairs. The attack on the capital city of Panama, led by the English pirate Henry Morgan in 1671, and Admiral Vernon's captures of Portobelo in 1739 and of the Fort of San Lorenzo in 1740 are particularly sad mementos of such recognition.

The Colombian Period (1821 - 1903)

Panama's maritime development was severely affected when the fairs were discontinued and Spain was forced to abandon the route around 1746. Activity did not fully recover until almost a century afterwards, but there was in the interim a political event that we would like to mention here because of its connection to what is Panama's destiny as a maritime nation.

Early in the eighteenth century, with the advent of the wars of liberation that led to the creation of the new Latin American republics, Panama played a meaningful role in support of Spain. This situation lasted until 1821, when the country declared its own
Fig. 2. 
Ports Movement in Panama (1544-1812)

Source: Enciclopedia De la Cultura Panamena para Ninos y Jóvenes 32, p.4.
independence and, under the aegis of the great Latin American Liberator, Simón Bolívar, joined the newly-formed Federation of the Great Colombia, under the name of "Department of the Isthmus".

In 1826, there was a general meeting of Latin American countries convened by Bolívar in Panama city. During the Anphictionic Congress, The Liberator spoke about Panama's uniqueness in the following terms: "Seems that if the world were to select its capital, the Isthmus of Panama would be chosen for such an august destiny, located as it is in the middle of the globe (our translation)". Such words, uttered by one of the greatest Latin American statesmen of all times, would forever seal the destiny of Panama and its people.  

Aside from the geopolitical relevance gained by Panama because of the political event we described above, two other major events that took place during the period of union with Colombia served to strengthen Panama's maritime development: the discovery of the gold mines of California in 1849 and the French initiative to build a canal through the isthmus in 1882.

In the first case, it may be said without further elaboration that Panama played a significant role in the discovery and exploitation of the California gold mines (1849). It became the meeting point of hundreds of eager European and Asian gold-diggers, the famous "forty-niners"; the place for purchasing the necessary supplies and equipment for prospecting; the place, finally, to find and board one of the crowded
ships that would take one to the lucky grounds. In this connection, it is worth noting that Panama served the needs of these men in an effective way. The first transcontinental railroad in the American continent was the Trans-Isthmian Railroad of Panama, completed in 1855. In that peak year, twenty-nine million dollars worth of California gold was moved through the Panamanian railroad.  

French Count Ferdinand De Lesseps' initiative to construct a sea-level canal through the isthmus of Panama was the second maritime event of the Colombian Period. Associated with the enterprise at its peak growth period in 1888 were 20,000 jobs. The ill-fated French attempt finally collapsed in 1896, due to poor administration, disease and great technical limitations. 

Between 1896 and 1903, Panamanian economic development was severely thwarted by the civil war between Colombia's Liberal and Conservative Parties, a large share of which was fought on isthmian soil. Hopes for recovery after the 1902 peace agreement between the two parties vanished when the Colombian Senate rejected the draft Herrán-Hay Treaty of 1903, whereby Colombia would have granted the United States of America the right to purchase the French concession rights and to build a canal through Panama. Economic depression, awareness among Panamanians that Colombia was unable to respond to their needs and aspirations, and pressure by the United States to begin negotiations quickly were the cornerstones of the Panamanian independence move-
The Republican Period (1903 to present)

Panama gained its independence from Colombia, without bloodshed, on 3 November 1903. Since then, perhaps largely as a result of the new role that the country came to play after the opening of the Panama Canal to world trade, maritime development has accelerated. In the years that have passed since independence took place, as we shall see now, Panama has been always actively seeking to perfect its national independence through the rational exploitation of its resources, especially its geographical position. In line with these circumstances, the Republican Period is the period that has seen the birth of most of present-day maritime activities in Panama, including the open registry fleet, the Panama Canal, and ports and ancillary industries.

The Panama Canal

Negotiations between the Republic of Panama and the United States of America over the granting of a concession for the latter to build an interoceanic waterway through Panama's territory were already underway at the time of Panamanian independence from Colombia. The negotiations were conducted during an especially difficult period when the country was organizing its independent life, and that is perhaps the reason...
why they ended on an unhappy note for Panama, just 15 days after independence, with the signing of the Isthmian Canal Convention or Hay-Bunau-Varilla Treaty of 18 November 1903, which granted the United States of America perpetual rights over 1,432 square kilometers of Panamanian territory, "as if it were sovereign", to construct, operate and maintain the Panama Canal.

The construction of the Panama Canal was a landmark in national and world maritime history. Works began as early as 1904, first with a general sanitary operation that led to the medical breakthrough of William C. Gorgas' discovery of the cause of yellow fever. The construction itself was associated with the name of engineer George W. Goethals, whose work has been praised as the "Eighth Marvel of the World" and recently declared an International Historical Monument by the American Society of Civil Engineering (ASCE).

The first ship ever to transit the Panama Canal was the SS Ancon, which made the inaugural trip on 15 August 1914. Since that date, the Panama Canal has been the focal point of economic and maritime activity in the Republic of Panama, the most latent example of the country's maritime potential.

Given Panama's permanent discomfort with the 1903 Panama Canal Treaty, the issue of regaining their rightful jurisdiction over the Canal area has been the daily bread of Panamanians. After protracted and difficult negotiations, whose last stage lasted ten years, the signing of two new treaties concerning the Panama
Canal signified a new chapter in the history of the waterway and of the host country, perhaps the single most important event influencing Panamanian maritime affairs in the future.

After the final round of negotiations, in which the peaceful vocation of the Panamanian people provided a lesson for other nations of the world as regards the peaceful resolution of conflicts, on 7 September 1977 the Head of State of the Republic of Panama and the President of the United States of America signed, in Washington D.C., the final texts of the Panama Canal Treaty Between the Republic of Panama and the United States of America and the Treaty Concerning the Permanent Neutrality and Operation of the Panama Canal Between the Republic of Panama and the United States of America, which constitute the new régime for this international waterway. The two treaties were subjected to the ratification procedures of both countries and the Instruments of Ratification exchanged between the two heads of government on 16 June 1978, in the city of Panama. The Panama Canal Treaties of 1977 finally entered into force six months after the date when the Instruments of Ratification went into effect for treaty purposes, on 1 October 1979.

The Panama Canal Treaties of 1977 have far-reaching national and international implications. For world traders, they represent a guarantee that the waterway - a vital transportation link - will be peacefully and efficiently managed and operated until the
year 2000 by the US Government agency called the Panama Canal Commission (PCC), which is set up by the treaty to replace the former Panama Canal Company and take over some of the functions of the former Canal Zone Government. After 2000, Panama will take over the whole canal operation.

The implications of these treaties domestically are obviously crucial. To use language treaty,

2. In accordance with the terms of this Treaty and related agreements, the Republic of Panama, as territorial sovereign, grants to the United States of America, for the duration of this Treaty, the rights necessary to regulate the transit of ships through the Panama Canal, and to manage, operate, maintain, improve, protect and defend the Canal. The Republic of Panama guarantees to the United States of America the peaceful use of the land and water areas which it has been granted the right to use for such purposes pursuant to this Treaty and related agreements.

3. The Republic of Panama shall participate increasingly in the management and protection and defense of the Canal, as provided in this Treaty.

This means that Panama undertakes certain obligations vis-à-vis the United States during the life of the treaty, while at the same time specifying that the country has to prepare itself for assuming full control of the waterway through "the growing participation of Panamanian nationals at all other levels and areas of employment in the aforesaid Commission, with the objective of preparing, in an orderly and efficient manner, for the assumption..." by Panama of the duties outlined herein.

From the above we can infer that Panama needs both to increase its participation in canal affairs
at all levels and to do so based on the improved training of its nationals. This all-important concept of the training of Panamanians for handling the canal, as well as the implications of studying other transportation alternatives to the Panama Canal will be discussed in more detail in subsequent chapters of this dissertation.

The Open Registry Fleet

Aside from the construction of the Panama Canal in 1914, obviously the other maritime development of import during Panama's Republican Period is the creation of the open registry of ships in 1925.

Several longstanding features of Panamanian law served as the foundation for the country's merchant marine, officially created with the promulgation of Law No. 25 of 12 January 1925, which set the guidelines for ship registration. The Fiscal Code of the republic, in particular, contained provisions enabling Panamanian nationals to purchase vessels abroad; to obtain provisional registration of their ships from Panamanian consuls abroad; and to finalize registration procedures upon arrival to the country. "However, the purpose and use of this feature of the law in the early years of the republic were limited to Panamanian citizens and companies." 9

Although it is not our intention here to provide a detailed account of the evolution of the registry, we do feel it is interesting to note some remarks made by Rodney Carlisle, who has done extensive
research on the historical aspects of the origins and evolution of the Panamanian and Liberian flags, on the subject of the 1925 law on ship registration:

...the new law brought together the specific existing attractions of the Panamanian codes. The system for registry through consuls abroad, previously covered by Article 589 of the Fiscal Code, became Article 18 of the new law. The 1925 law made the procedures and steps for ship registry clearer and more concise, producing the neat, packaged code requested by shipowners. Yet, several features of the law were written to provide Panama, at least on paper, with new benefits. Article 16 revived an old Colombian requirement regarding the nationality of crew, and stated that at least ten per cent of any crew on a Panamanian-registered vessel be citizens of Panama, provided those applying for employment are up to the physical and moral standards required for the post. The proviso made it clear that the ten per cent was what a later era would call an employment guideline; no recruitment goals or special training were specified to bring employment up to a minimum quota... Article 17 empowered the Panamanian President to establish a maritime academy and to require that Panamanian-registered vessels employ its graduates. (Our emphasis).10

The same author later arrives at the conclusion that, although there is a general tendency to believe that the Panamanian registry was created by American shipowners and policy-makers to solve the dilemmas of American shipping,

Evidence does not support such a conspiracy theory of the development of the Panamanian system for American purposes... The system did respond to the pressures of shipowners, and to their desires for an unregulated business environment. But Panama fought the American business and official view that Panama's sovereignty was a sham and its flag a symbol of sovereignty for sale (our emphasis).11

Setting aside for a moment the origins of the Panamanian open registry system, it is also worth noting that its evolution was also a product of Panamanian creative thinking put to the test and of the ability
of our lawyers and leaders to understand the needs of foreign shipowners and to create a framework within which these investors could feel attracted to Panama. In our opinion, despite arguments to the contrary in a multiplicity of fora, the Panamanian ships' register is an autoctonous product born out of the creativity of a people that must deal with the fact that they largely lack productive natural resources other than the country's geographical configuration and position. As such it can be argued that the problems affecting the registry are but a reflection of the fact that it is run from Panama and by Panamanians and is, because of this, subject to the vissicitudes of maritime development in any developing country.

In line with this argument, a prominent Panamanian lawyer and former negotiator of the 1977 Panama Canal Treaties, Dr. Carlos López-Guevara, has explained the often-ignored link between Panama and its fleet in the following terms:

The main feature of our legislation is that it is based upon the governmental policy of attracting and protecting foreign investments and always endeavouring not to be placed out of the market by the competition. We are able to offer stability because of our democratic way of government, our legislation and its interpretation. We are very well known for keeping our contractual obligations. Besides, we have the law on corporations that follows the American pattern. This law was enacted in 1932 and remains the same, as an excellent example of the firmness of our institutions. (Our emphasis) 12

In accordance with our previous appreciations, and of the fact that there are many aspects of Panama's
maritime development in which there is room for improvement, we shall now turn briefly to a consideration of some of the problems facing the Panamanian open registry fleet in contemporary times. This we do as a necessary first-step in the formulation of our strategy for improvement later on.

Panama's open registry has always been the subject of criticisms on the part of seafarers, governments and international bodies. By nature controversial and considered to be a threat to the fleets of traditional maritime nations and to developing countries aiming at establishing their national shipping, the Panamanian fleet can boast an excellent record of willingness to listen and improve. Yet, in the face of the latest and most vehement of all attacks, the one being staged by the United Nations Conference on Trade and Development (UNCTAD) in the form of an attempt to draft and implement a convention on the conditions for the registration of ships in any country, some comments must be made here.

July 1976 was the time when concerted efforts began, on a worldwide basis, to eliminate open registries. As some may remember, it was then that UNCTAD created an Ad-Hoc Intergovernmental Working Group to study and prepare a report on the effects of the existence or lack of existence of a "genuine link" between merchant vessels and their country of registration. This first step was taken by the UNCTAD Secretariat itself, with the support of developing countries, the Soviet
Union and the Peoples' Republic of China. The report of the group was presented to UNCTAD V, held in Manila and, from then on, over ten long years which we need not recount here, the arguments against the existence of open registries have swayed over a very broad spectrum. From claims that they impeded the growth of fleets in developing countries; to claims that the overall safety, health and pollution prevention measures that prevailed on board these vessels were inadequate; to a more recent claim that all UNCTAD wants is to establish some kind of parameters for their operation, the result is that there is now a more positive appreciation of the trade and economic issues that are really at stake. In this regards, we feel that the change in attitude at UNCTAD can be categorized as a big step forward, and as a more mature way of looking at shipping within the context of the maritime development of all nations, open registry countries included.

In July 1984 UNCTAD convened a diplomatic conference to begin work on a draft document on the conditions that should be required for the registration of ships, pursuant to the mandate given to this body by a UN General Assembly Resolution (37/209) dated 20 December 1982. This was mandated in the context of UN General Assembly attempts to achieve the objectives of the International Development Strategy for the Third United Nations Development Decade.

After two subsequent meetings held in Geneva this year (January and July), there is now at hand an
approved draft convention and everything seems to indicate that some type of agreement will be reached in January 1986, when the next scheduled meeting takes place also in Geneva.

While the proposed text is but a very diluted version of UNCTAD's original proposals for the phasing out of open registries in a period of ten years, the draft is nevertheless a setback for all maritime nations in the sense that it will not achieve the main goal for which it was allegedly prepared, viz., to allow developing countries to build up their national fleets. The convention adds an emotional and political burden to the achievement of that goal and, on the other hand, says nothing about how a developing country can really go about building its maritime activities and administration. By attempting to regulate what is essentially a national competence and by not being able either to destroy the open registries as it propounded, all that is really achieved is the adoption of a dangerous precedent as regards crucial issues such as the treatment of foreign investments in a country or the use of the international machinery for harmonizing ideas and not for pitting nations against nations.
CHAPTER TWO

A STRATEGY FOR NATIONAL MARITIME DEVELOPMENT

In the previous chapter we tried to trace the historical development of maritime-related activities in the Republic of Panama, as a way of justifying our initial contention that Panama is a maritime nation par excellence and also as a way of indicating the real growth potential which the author attaches to these activities. We now propose to introduce the global concept of our strategy for achieving Panama's optimum maritime development over the next fifteen years. In subsequent chapters we will particularize proposals for the most important maritime activities and how we feel our proposals could be put into practice.

The main natural resources of Panama are its geographical location and configuration. During our years as a maritime administrator, we became convinced that, in order to make optimum use of these resources, and for them to generate the resources needed for sustaining our population and investing in the future, Panama needs to devise and implement a coherent development strategy for its maritime sector. For the purposes of this dissertation, "national maritime sector" means the set of resources and activities that are carried out in Panama and which are directly related to the sea,
including the human resources, the open registry fleet, the national ports, maritime ancillary industries, the Panama Canal and fishing activities. The national maritime sector thus defined into its principal components is the subject of this study and of the development strategy we are proposing herein for an optimum utilization of Panama's geographical position (See Figure 3).

Before we outline the strategy per se, we feel it is necessary to provide our readers with a brief but comprehensive overview of the current performance, in social and economic terms, of each of the main components of the national maritime sector, as a way of highlighting their relative importance within the economy today and also of hinting at their potential for growth.

Beginning with the open registry, we find that it is the second largest merchant fleet in the world. As of 30 June 1985, according to Panamanian Government sources, it included 11,850 ships that totalled some 51,177,683 grt. The fleet currently produces around $50 million US dollars per year in direct tax revenues to the Panamanian State, plus almost double that amount by way of legal and other services.

In the field of employment of nationals, however, the figures indicate marginal growth. Three big shipowners with offices located in Panama City employ the most significant amount of Panamanian seafarers, but these are only seamen. These companies are Esso, Texaco and Panavigas, a subsidiary of Hapag Lloyd.
Fig. 3.

UTILIZATION OF PANAMA'S GEOGRAPHICAL POSITION
On a separate and interesting experimental basis, there are some 300 Panamanian officers and seamen currently employed on board Panamanian-flag vessels under the terms of a collective employment agreement that was negotiated directly between the Asociación Panameña de Oficiales de Marina (APOM—the Panamanian merchant marine officers' organization) and the Unión Nacional de Marinos de Panamá (UNMP—one of the the two principal unions of Panamanian merchant seamen). The 300 men that were employed for differing periods of time between September 1983 and December 1984 earned a total of US $300,000, a figure that indicates the potential that lies in the field.  

Despite the fact that Panama had no direct control over the operations of its two principal deepwater ports until the entry into force of the 1977 Panama Canal Treaties, Balboa and Cristobal have continued to operate without major problems in the period following their return to Panamanian jurisdiction. As seen in Table 1, by 1984 Balboa had dramatically increased its cargo handling figures, from 176,184 metric tons in the previous year to 402,144 metric tons at the end of 1984. The same applies to Cristobal, which increased the amount of cargo handled, from 138,495 metric tons in 1983 to 416,020 metric tons at the end of 1984. These figures include the handling of national industrial exports for a total value of US$71.6 million in 1984 also.
Table 1. Balboa and Cristobal Ports Movement (1983-1984)

<table>
<thead>
<tr>
<th></th>
<th>CRISTOBAL</th>
<th>BALBOA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHIPS</td>
<td>1983</td>
<td>1984</td>
</tr>
<tr>
<td></td>
<td>779</td>
<td>1754</td>
</tr>
<tr>
<td>CARGO (M.T.)</td>
<td>136495</td>
<td>416020</td>
</tr>
<tr>
<td>LOADED</td>
<td>17627</td>
<td>59245</td>
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<tr>
<td>UNLOADED</td>
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<td>356775</td>
</tr>
<tr>
<td>CONTAINERS</td>
<td>17205</td>
<td>46936</td>
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<tr>
<td>LOADED</td>
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<td>23309</td>
</tr>
<tr>
<td>UNLOADED</td>
<td>8628</td>
<td>23627</td>
</tr>
</tbody>
</table>


Table 2. Balboa and Cristobal Port Movement (Jan-March 1985)

<table>
<thead>
<tr>
<th></th>
<th>CRISTOBAL</th>
<th>BALBOA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHIPS</td>
<td>JAN</td>
<td>FEB</td>
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<td></td>
<td>146</td>
<td>120</td>
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<td>CARGO (M.T.)</td>
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<tr>
<td>LOADED</td>
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<td>1639</td>
</tr>
<tr>
<td>UNLOADED</td>
<td>2058</td>
<td>1579</td>
</tr>
</tbody>
</table>

An indication of early 1985 performance is found in Table 2.

It has been further estimated that, if the Panamanian Government finally decides to go ahead with its plans for the Panama Centreport Project, the country could receive an additional US$150 million per year in revenues and some 15,000 new jobs would be created. 16

With respect to marine ancillary industries there are almost no economic performance indicators available. These include a minimum of ten different marine support activities, viz., cargo-handling, pipeline, lighterage, transportation, warehousing, shiprepairs, ship stores and supplies, bunkering, shipping operations, ship agency and freight forwarding, banking and commercial services, tourism, telecommunications and the Free Zone of Colón. It is worth singling out, however, two of these industries for which more data is available.

Since October 1982, the trans-isthmian oil pipeline operated by Petroterminal de Panamá, S.A. has become an important revenue earner for Panama. This pipeline is devoted to the transport of Alaskan crude oil from the port of Charco Azul, in the Pacific coast of the province of Chiriquí, to the port of Chiriquí Grande, in the Atlantic coast of the province of Bocas del Toro. At present, the company employs 450 Panamanians on a permanent basis and pays an average of US$ 9 million in wages. An additional
contribution to the economy, at least at the provincial level, is the fact 500 jobs have been created in the two provinces, while it is estimated that the company made purchases of about US$20 million in the local commerce and paid electricity bills of almost US$8.5 million. As a holder of 40% of the company's shares, Panama's Government recently received a check for US$28 million in dividends, aside from the US$28.4 million that it received in the way of taxes.17

The other ancillary industry for which some figures are available is that of shiprepairs. The main shiprepairers in Panama, Astilleros Balboa S.A. (ASBA) is a private Franco-Panamanian company that began operations in 1982 and has grown at a slow but steady rate since then. Company sources estimate that they have served an average of 100 vessels per year. In 1984, ASBA employed between 225 and 350 workers.18

Fishing is the country's second export revenue earner, after bananas. According to industry reports, in 1984 Panama exported 10,980 MT of fish, worth US$55.6 million. The industry represents an investment of around US$150 million, of which US$80 million belong to private companies and the rest to the State. Around 5,000 workers are employed in fishing, and almost 25,000 Panamanians depend on it.19

Obviously, the principal maritime activity in Panama is the Panama Canal. In terms of revenues, it is estimated that it makes an annual contribution of some US$600 million to the national economy. Around
6,000 Panamanians are employed by the PCC, while it is often argued that it is likewise the indirect source of many other benefits and revenues, especially those connected with services rendered to transiting vessels.

It is expected that the indicators we have provided herein underscore the fact that there is already in existence in Panama a comprehensive set of sea-related activities that contribute significantly to the economy and the grounds for whose growth it is our goal to prepare through the implementation of our Strategy.

The Strategy: Premises and Assumptions

The first aspect that we must bear in mind is that this Strategy is based on the contents of UNCLOS III and that it strives to illustrate how Panama can make use of its concepts for fostering national maritime development until 2000. In order to do this, of course, resort must be made to the national development strategy in order to identify the guidelines, resources and tools available for doing so.

Such a premise is not only desirable but necessary, for our Strategy. As a nation fully committed to the ideals of the United Nations organization and basically identified with the needs and aspirations of developing countries like itself, Panama cannot and should not attempt to develop the resources of its geography and ocean waters without giving due regard to UNCLOS III, even if it is not yet in force.
Notwithstanding the fact that they have not been officially linked, it is necessary to indicate here that, as far as developing countries are concerned, UNCLOS III is the only building block available for instituting the New International Economic Order we are longing for.

It is not essential to discuss in this paper the scope of UNCLOS III nor to enumerate the topics it deals with. Suffice it to say that, wherever it could be relevant, UNCLOS III contains a provision that could be applied to one or the other maritime activity present in the Republic of Panama. Moreover, in our opinion, the instrument provides rather good and comprehensive guidelines for developing not only shipping, but the rest of the maritime activities that we wish to foster in Panama. The following parts of the convention are particularly relevant to Panamanian maritime activities: Part II, on the Territorial Sea and Contiguous Zone; Part V, on the Exclusive Economic Zone; Part VI, on the Continental Shelf; Part VII, on the High Seas; Part XII, on Protection and Preservation of the Marine Environment; and Part XIV, on the Development and Transfer of Marine Technology.

Despite the fears that this premise may raise in some of my compatriots, who may be concerned with the effect of the clauses relating to nationality of ships and genuine link (Article 91) and with the duties of the Flag State (Article 94), after a thorough and careful evaluation of these provisions, and of
consultations with experts in the Law of the Sea, we are able to state that there is no contradiction between the convention and Panama's current handling of its maritime affairs. Panama's shipping director himself, Dr. Hugo Torrijos, has stated that UNCLOS III "does not, as some would argue, contradict the open registry system being practiced by Panama, but instead favours it. We have taken the steps to exercise full control and jurisdiction over vessels." Thus, perhaps only pending the final outcome of the UNCTAD Conference on Ship Registration (next meeting scheduled for January 1986) in order to see if that body produces a more clear-cut definition of the "genuine link", the Republic of Panama should entertain the possibility of ratifying UNCLOS III after a close evaluation of its merits and without ignoring political expediency.

Questions of nationality of ships and flag jurisdiction aside, it is important to note that the UNCLOS III Convention is the umbrella for all of the activities of the International Maritime Organization (IMO) in the fields of training of marine personnel, maritime safety and prevention and control of marine pollution from vessels. By using the language and spirit of the convention first, and then going ahead with a full implementation of IMO international standards through a qualitative improvement of the country's maritime safety administration and maritime training schemes, Panama can fulfill its duties under
the international conventions and also make a significant contribution to make the seas safer and the oceans cleaner.

A second premise of the Strategy is that the current institutional framework of Panama's maritime activities and industries are generally adequate for implementing the actions we recommend and that only minor organizational changes are necessary at this stage and until the target year 2000. By institutional framework here we mean both the private and the government agencies and companies that currently develop some type of maritime activity in Panama. Included in the governmental group are: the national maritime administration, called Dirección General Consular y de Naves of the Panamanian Ministry of Finance and Treasury (SECNAVES); the national ports administration, called Autoridad Portuaria Nacional (APN), an autonomous agency of the national government under the direction of the Ministry of Commerce and Industry; the national fishing administration, called Dirección General de Recursos Marinos (DGRM), a department of the Ministry of Commerce and Industry; the nautical school, called Escuela Náutica de Panamá (ENP), which depends on the Ministry of Education; and a separate agency of the US Government, the PCC, which is nevertheless run by a Board of Directors composed of four Panamanians and five US citizens until the year 1998, when this proportion will be directly inverted to give preference to the nationals of the Republic of Panama.
The first three agencies we have described above would need to make some organizational changes in order to implement the strategic goals we will outline for them shortly. These changes, however, are basically geared towards a strengthening of their technical, operational and policy-making departments. This is a simple but essential step, as the current staff composition of these three institutions is nowadays too heavily burdened with professionals who have no formal training or relevant experience in basic areas such as: marine engineering, naval architecture and nautical subjects; general maritime administration and maritime safety administration; maritime transport; shipping; and oceanology. The fourth institution on the list, the ENP, is the only exception to the general rule we have stated here, meaning that its staff is largely composed of marine officers who, although young and inexperienced, are now training to become professional maritime educators. The last institution on our list, the PCC, is running most efficiently and no changes in its setup are desirable for the time being, except perhaps as may be envisaged in the agreements for the execution of the canal treaties.

Also as a part of our second premise, we must say a word about the need for increased collaboration and integrative mechanisms within government. Because all maritime activities are interrelated, in order to optimize resource allocation and exploitation, all government agencies and institutions of the Panamanian
national maritime sector must work together to produce coherent, comprehensive policies. This collaboration will probably, in the course of time, result in an increased awareness of the need to create new agencies for greater shipping and ocean development. In this connection, we would recommend the creation of national ad hoc committee of maritime experts, wholly composed of Panamanian citizens, who would be directly responsible to the President of the Republic and whose task it would be to assist the Executive in the formulation of maritime policies, including a formal statement of Panama's maritime policy, the necessary first-step for national maritime development in any country.

To aid the government policy-makers in the structuring of such a committee, we would recommend consideration of the experience of nations such as Portugal, with its Ministry of the Sea; France, with its State Secretariat in charge of the Sea and a junior minister in charge of the merchant marine; Sri Lanka's National Aquatic Resources Agency (NARA); and India's Department of Ocean Development (DOD), under the Prime Minister himself. A step in this last direction would undoubtedly place Panama in a much better and competitive position for optimizing the benefits derived from its natural resources.

The third and final assumption we make concerns the future demand for Panamanian transport and related services, as well as for the resources of
its oceans. We have assumed that, given Panama's maritime background and the timely adoption of the recommendations we include in our Strategy, the country will continue to enjoy a privileged position in world trade, well into the next century. Demand for fish and other living resources of the Panamanian territorial and economic waters will probably increase and, given current exploitation practices, supplies will be plentiful during the period. In essence, all other things remaining equal, the attainment of our strategic goals will allow Panama to increase its maritime activity levels to new heights, earn additional revenues for sustaining the population and improving their standard of living, and for allowing the country to invest in other export-oriented activities in the not too distant future.

The Strategy: Development Goals

This dissertation has been entitled Panama 2000: A Strategy for National Maritime Development because it presents at its core a general, long-range scheme for guiding the development of Panama's maritime activities over the next fifteen years. These are our recommendations for improving the economic and social performance indicators of the sector, with the ultimate aim of contributing to the welfare of all Panamanians. It is not a "plan", that is, a detailed program of action priorities. Neither can it be cons-
idered a "program", or timing for the execution of a plan through concrete projects. It is rather a compilation of the basic information needed for making many government and private company plans, programs, projects or schemes aimed at helping Panama achieve full maritime development by the year 2000. The purpose of the Strategy, as outlined earlier, is to orient the Panamanians about the possibilities for improving the quality and the amount of the benefits they derive from the sea, as a way of making the country more economically and politically independent.

The Strategy itself should best be defined as a set of development goals to be achieved by each of the components of the national maritime sector within the period 1986-2000. These goals, and how to translate them into reality, are explained in more detail in subsequent chapters dealing specifically with each maritime activity being carried out in Panama, but we must at this stage identify them as follows:

**GOAL 1 - Development of Human Resources in the Maritime Field:** Within the time limit of fifteen years, it is our goal to train enough deck and engine officers, ratings, naval architects, general maritime and maritime safety administrators, shipping company managers, and maritime educators to satisfy the personnel needs
of the national maritime sector and to provide added employment opportunities for Panama's fast-growing population.

GOAL 2 - Fostering the employment of Panamanian seafarers on board national flag vessels:

This goal is aimed at providing Panamanian seafarers with the necessary sea-time and shipboard experience required by IMO's Convention on Standards of Training, Certification and Watchkeeping, 1978 (better known as the STCW Convention, 1978). It is a goal intimately connected to the strengthening of the links between the country and its fleet, the reduction of conflicts with port states and international seafarers' unions, and to the training of Panamanian pilots for the Panama Canal.

GOAL 3 - Strengthening of the National Maritime Safety Administration: Under this goal we envisage the adoption and full implementation of all major IMO conventions relating to safety and pollution prevention and control, with an aim of improving the fleet's safety record, reducing casualties that result in loss of life or extensive damage to the marine environment, and of generally increasing the efficiency of the open registry fleet.
GOAL 4 - Development of Panama's two main deep-water ports into a major container transshipment center called "Panama Centreport." This goal envisions the establishment of another non-marine transportation to the Panama Canal in the isthmus, to serve world trade needs arising from the container revolution and its more recent development, the round-the-world services of US Lines and Evergreen, among others.

GOAL 5 - Catering to the needs of domestic trade and transport needs via the improvement of strategic regional ports infrastructures: With this goal we endeavour to encourage the progress of Panama's hinterland and the regional integration of the country by ensuring that key population and production centers are suitably served by the national ports network.

GOAL 6 - Fostering the growth and strengthening of maritime ancillary industries to better serve the Panama Canal and the national ports, especially shiprepairs and tourism: Within the ambit of this goal we include the adoption of all viable measures for making available in Panama the cheap and efficient support services required by maritime trans-
GOAL 7 - Evaluating the transportation alternatives to the Panama Canal, giving due consideration to "The Panamanian Alternative" that favours a new locks canal built around the existing route: This goal represents the need to carry out serious feasibility studies of all major transportation alternatives to the Panama Canal, as mandated by the 1977 Panama Canal Treaties, with the objective of deciding what is the best alternative for Panama.

GOAL 8 - Promoting the fishing industry through a modernization of existing legislation, the granting of incentives for the development of a modern and efficient fishing fleet that can exploit the resources of the Exclusive Economic Zone, and the diversification of exports and of national fish consumption patterns: Under this goal we encompass all the possible ways of optimizing the benefits that Panama
derives from its fishing activities, both for consumption and for export.

The eight goals we have previously outlined constitute the targets for which individual components of the national maritime sector must aim. Their evaluation first, and implementation later, we believe, will result in great benefit to Panama and its people in the short and medium run through the reduction of conflicts with other states, the improved image of Panama in the international arena, the generation of new jobs and sources of revenue, and the consolidation of a truly healthy climate for maritime activities in the country.
CHAPTER THREE

HUMAN RESOURCES

Human resources are the most abundant of all resources available to nations, although the harnessing of their potential is always costly and time-consuming. The goal of training and of increasing the expertise of human resources in different facets of human activity is thus always a major consideration when working to effect change.

When we started to work on this dissertation, it suddenly became very obvious that our first and foremost problem in implementing any strategy, no matter how simple or complex, would be the lack of Panamanians specifically trained in maritime affairs. Although the population of the country generally enjoys a high level of education in traditional fields of knowledge, in areas such as shipping and maritime affairs there is a very big vacuum. We then came up with the idea of making the training of human resources for the Panamanian maritime sector our number one and overriding goal, the goal that, if and when it is achieved, will allow us to ride the waves triumphantly towards Panama's full maritime development.

Although maritime activities in Panama seem healthy for the time being, in today's highly complex shipping scenario there is no longer any room left
for improvising, and the time will soon come when expertise in maritime affairs will be essential for the continued success of the national maritime sector. Up to now, as we have indicated at times in the course of this essay, developments in Panama seem haphazard, and no good explanation can be offered to our readers as to why things have prospered in the midst of apparent disarray and lack of design.

The preparation of this Strategy for national maritime is partly aimed at correcting this situation. Such great attention is being given at the international level to maritime training, both at IMO and at the International Labour Organization(ILO), as well as in the context of the provisions of UNCLOS III, that Panama cannot escape for much longer the strength of the tide. Something must be done shortly about the training of maritime personnel and the ideas we will outline here are simply guidelines for trying to correct what we believe are the two main human resources problems prevailing in Panama, viz., the lack of specialized maritime personnel in several specific categories, and the inability of Panamanian seafarers, especially officers, to get the necessary experience for becoming full officers and for enjoying the possibilities of a good remuneration, more expertise and a better standard of living that are elsewhere associated with the profession.

In the current setup we find that the only
opportunity for maritime training is offered by the ENP. This training is aimed at deck and engineer officers basically, although there is also a one-year program for ratings. Tentative plans for creating a school for polivalent ratings in the province of Colón were abandoned some time ago due to governmental apathy and the fact that the project itself had not been adequately structured. Similarly, more interesting plans for the creation of special maritime training high schools in certain areas of the country with known interest in the seas and fishing were also abandoned some years ago, due mainly to political considerations.

Given the fact that training is only available for officers and, to a lesser degree, for ratings, we must now discuss the ways in which this training can be improved. This must be done, of course, starting from the fact that Panama is not a traditional maritime nation and that the employment of nationals has never been really fostered.

The issue of training Panamanian seafarers must be viewed at two different levels: the national and the international level. At the national level we face the question of how to make this training fit within the overall scheme of the open registry, a much debated and politically salient issue. And, on the other hand, we have the question of why invest in this type of education if there are no guaranteed returns, no possibilities for employment, and also the
question of how to train pilots and other floating equipment personnel for the Panama Canal without sending them to sea, as is usual in more advanced maritime nations.

At the second level of analysis we find the problems associated with Panama's image within the developing world community, the country's many bilateral and multilateral commitments, and the heterogeneity of the pool of seafarers that mans Panama's open registry fleet and who must be protected while sailing under the national flag.

Arriving at a compromise between these two levels of analysis is very difficult indeed, but we feel that Panama should make a real effort in this regards. Despite the economic disruptions that many advocates of the status quo dream about, the fact is that there will be no more maritime development in Panama or increases in revenues unless Panamanians are adequately trained for handling maritime affairs, private companies and government agencies included. Reasons brandished for not moving in this direction are becoming increasingly unacceptable and will eventually result in a deterioration of current performance levels and an impoverishment of the population, exactly the opposite of what everybody hopes for.

So far, efforts to train seafarers, as we have explained, have generally fared better than efforts to find them jobs. This situation prevails in spite of the fact that under Article 226 of Panama's Labour
Code, the legislation regulating the employment of seafarers on board Panamanian-flag vessels, provides for a ten per cent of all seamen on board each national vessel to be composed of Panamanian nationals, or of foreigners married to Panamanians or having Panamanian children, provided they reside in Panama.

This unwillingness of the Panamanian governments of all times to permit Panamanians to work on board ships seems to contradict other efforts aimed at improving the quality of the education offered by the ENP. According to the school's Director, Capt. Antonio Motta,

"...the school's new curriculum has proved that it fulfills its commitments, since reports received from masters and shipping companies about our cadets are satisfactory. Success is due to efforts undertaken by the school's officials, the work and dedication of the professors, and the development of the PAN/81/005 Technical Assistance Project being executed by IMO and financed by the Panamanian Government and the United Nations Development Program (UNDP)."

However, these efforts, humble and inadequate as they may seem to some, must be appreciated within the framework of the situation that we have outlined here. This seems to be but yet another reflection of the fact that the right hand does not know what the left hand is doing, or that it is at least conveniently ignoring it. Anyhow, the net result is that despite extremely adverse conditions, some progress is being in the field of maritime training in Panama.

As we have noted earlier in this chapter, little progress has been done in the way of allowing
or, at least, helping Panamanians to find jobs on board national flag vessels. The only notable exception to this are the courageous efforts of the APOM and the UNMP to find jobs for their members through the arrangement of private collective employment agreements, an effort that must somehow be understood by the decision-makers and complemented with more solid action.

The main reasons behind our concern for the training of Panamanian seafarers, and especially of officers, is the fact that Panama cannot hope to move forward in maritime affairs unless it can count on people that have had some kind of sea experience. Knowledge of what a ship is and what it needs, as well as of the general aspects of ships operations are essential for ensuring a quick turn-round in ports, delivering good and quick services, and generally attracting maritime and shipping clients. The problems that Panama faces today with its ports, the open registry fleet and other related activities, I dare say, are born essentially out of the lack of adequate training of the personnel in charge of those activities. Yet the real problem will be faced as the time approaches for taking over the operations of the Panama Canal, a highly sophisticated operation that requires not only good business administrators and lawyers, but also plenty of technical personnel, not the least of which are the pilots that compose the pilot force that is the heart of the entire canal
organization and functioning.

Within Panama's overall training problems, the problem of the training of Panamanian pilots deserves special consideration here. The reason is that, despite impeccable efforts on the part of the Panama Canal Commission to train as many Panamanians as possible within the limits of their budget and space availability on board PCC floating equipment and units, this is the area where Panamanian participation in the canal's labour force is weakest.

The Panama Canal is unique in the sense that, quite unlike Suez and Kiel, where pilots are just advisors to the ship's master, while in Panama Canal waters the ship is under the full control and command of the Panama Canal pilot. This is possible, in the opinion of maritime training experts and shipping people, only because of the highly qualified pilot force that we find there, an aspect that Panama must not overlook as it makes plans for taking over the waterway at the turn of the century.

Capt. Jeremías De León, Panama's first pilot, refers to the problem of pilot training in a rather worried tone, stating that "only 29 (12.2%) of us (Panamanians) have achieved this goal. At this pace, less than three per year, it will take us 86 YEARS to replace the remaining 208 US citizens." In general terms, Capt. De León's concerns are shared by IMO's maritime training expert, Capt. Max Tiedemann,
who visited Panama during March-April 1979 on a special mission to evaluate pilot training in the Panama Canal. Capt. Tiedemann arrived at the following recommendations, which we quote here because of the fact that their author is a highly qualified senior pilot at the Kiel Canal and a man of great experience and learning:

2. Panama should be advised that, in order to meet the STCW Conference regulation II/2, the current practice of requiring a Master Mariner's Certificate/License as a condition of entry into the Pilotage Service should be continued. This is especially necessary in the case of the Panama Canal, in order to inspire the confidence of the Master from whom the pilot takes over command and, at the same time, to retain credibility within the international shipping community.24

With the above quote we end our discussion of the training of pilots for the Panama Canal and of the need for Panamanian seamen, especially the officers, to be allowed to gain the necessary experience on board Panamanian-flag vessels. Needless to say, we feel this an area that should be assigned the utmost priority in the immediate future, or else Panama risks the possibility of being unable to comply with treaty provisions.

With respect to the training of other types of personnel that we have described under Goals 1 and 2, we feel that the best alternative is to make extensive use of the training available at the World Maritime University in Malmö, Sweden. This institution was created under the auspices of IMO precisely to help developing countries overcome the lack of qualified maritime personnel. Instruction and on-the-job
training are available as part of the curriculum at the WMU, and we feel there is really no better institution in its field.

Should financial considerations, however, limit the possibility of a large number of Panamanians being able to obtain their training in general maritime administration, maritime safety administration, management of shipping companies, and maritime education and training at the WMU, then we would advise taking as many opportunities as are available for training Panamanians in other institutions abroad, through the widespread utilization of scholarships and other similar funding arrangements. Although the training may not be in exactly the fields we have specified, training in any similar or related field of maritime activity, and living in a country that generally enjoys a healthy climate for shipping and maritime investments will undoubtedly contribute to the achievement of the overall goal.

Finally, when we considered training in the areas of port management and operations, and of fishing, we arrived at the conclusion that, aside from efforts to improve the qualifications of local fishermen via the establishment of special courses, training in these areas could be best arranged under the auspices of the international organizations dealing with the subjects, viz., UNCTAD, ILO and the International Food and Agriculture Organization (FAO). Additional possibilities for training could come from bilateral agreements with countries like The Netherlands, Egypt and Portugal.
CHAPTER FOUR

THE OPEN REGISTRY FLEET

The open registry is perhaps the feature, besides the Panama Canal, that best identifies Panama as a Maritime Nation. Created almost with the republic at the turn of the twentieth century, the registry has evolved over a long period of time to become nowadays one of the country's principal maritime activities and a source of significant revenues for country nationals, except seafarers.

In our chapter dealing with human resources we outlined the role that this Strategy feels should be played by the fleet in support of an integral development of Panamanian national maritime activities. This role encompasses both a revenue-producing and training component. The training component of the role has been dealt with in that same chapter and requires no further elaboration. On the subject of revenue-earning, we feel that a general comment is necessary perhaps now.

Considering the current recession in the world shipping markets, at this stage we cannot foresee any significant growth, in real terms, for the Panamanian fleet. Marginal growth will continue to be registered, but this represents basically a change
in flags and only a small increase via newbuilding registrations. This means that, for the time being, probably the most optimistic we can be as regards the fleet is to hope for a maintenance of current growth levels.

In this stage, which is basically an interim stage in which no major changes will take place in the structure of the world fleet, we feel it would be wise for Panama to take the time to work on some aspects of its maritime safety administration that could benefit from changes in organization and from the introduction of more qualified personnel into decision-making and technical areas. Thus, in our opinion, the time is right for "putting the house in order" while awaiting for an improvement in the market situation.

Beginning with a consideration of its legal framework, which we have not discussed at any length thus far, we propose now to analyze the possibilities for improving the open registry fleet and for preparing the grounds for reaping greater benefits when the shipping activities pick up. In this respect, we shall first take a look at the different sets of laws that permit the operation of the fleet.

Registration Laws

As described in Chapter One, Law No. 8 of 1925 is the basic law of the Panamanian ships register, since it establishes the conditions for the registration of vessels. This law was in turn complemented
by Law No. 54 of 1926, which spells out the procedures for the cancellation of ship’s registration in Panama.

Today it is possible to register virtually any type of vessel in Panama, except pleasure boats under 20 meters in length or below 50 grt. Vessels registered in Panama can be of any age, provided they are able to obtain the necessary documents for international trading. Panamanian law does not impose major restrictions on vessel registration; barges, floating docks, pontoons, drilling rigs, dredges and any other floating structure which requires a nationality can be registered in Panama.

As regards ownership, it is a well-known fact that any national or foreigner may own and register a ship under the Panamanian flag. A vessel may be wholly owned by foreigners, but the law provides that these owners be locally represented at all times, at least through a Panamanian attorney or law firm.

Aside from the two basic registration laws that we mentioned at the outset, mention must be also made of Law No. 2 of 1980, since it introduced several changes in the original ship registration régime. To begin with, it organized the Directorate General of Consular and Maritime Affairs as a directorate within the Panamanian Ministry of Finance and Treasury and gave it essentially all the powers relating to a national maritime administration, especially those regarding the implementation of international safety and pollution prevention and control measures, as
well as other more traditional functions such as those of licensing of marine personnel, surveys and inspections, and policy-making for the open registry fleet. This law reorganized the system for the issue of statutory and provisional certificates of registry for Panamanian vessels, to correct some of the problems that had been documented under the previous arrangement, where these documents were issued on a permanent basis. The law further provided for the de facto cancellation of ships from the Panamanian registry; it strengthened the functions of SECNAVES as the national maritime administration; and also provided for sanctions in the case of non-compliance with international maritime conventions ratified by Panama. Finally, this law restricted the registration of yachts in Panama, largely to avoid the administrative complications that had been long associated with their registration under the national flag.

With the introduction of this last law on registration of ships, we feel that Panama is more than adequately prepared to undertake its full responsibilities under international instruments and that, for the time being, no changes should be contemplated in the registration régime.

Corporation Law

B.N. Metaxas has made the point that "in
addition to straightforward cost considerations and pecuniary economies, other criteria are applied by entreprenuers in deciding on the flag under which the vessel will be registered...The device of flags of convenience presupposes the existence of a certain business organization form."25 In this connection, it has often been stated that Panama's corporation law is one of the cornerstones of the open registry and of other international activities operated in the country, such as the banking, insurance and re-insurance centers. The Panamanian law of corporations which regulates the organization and management of corporations, and the registration of foreign corporations' branches in Panama, "has five major characteristics: a) simplicity in the organization and management; b) quickness in organizing it; d) low organization and maintenance costs; d) the absence of governmental controls, except in the case of value offered to the public; and e) legal stability."26

According to Panama's prominent maritime lawyer, Dr. López-Guevara, the creators of Law No. 32 "did not envisage the great success that it would have. But the success is evident in the fact that, up until December 1983, some 350,000 corporations were registered in Panama."27

As in the case of the registration régime, because of the fact that Panama's corporation law embodies the element of stability and predictability
that generally attracts foreign shipowners and investors, no changes to this law are recommended.

**Commercial Laws**

The Panamanian Code of Commerce of 1917 is the other key piece of legislation affecting ship registration in Panama, since it generally regulates titles to vessels and mortgages thereon. Under its Book II, as modified by Law No.14 of 27 May 1980, we find the legal provisions relating to vessels, shipowners, ship operators, maritime credits and their respective privileges, ship mortgages, attachment and sale of vessels, and prescription.

In Panama, ship registration is carried out, on the basis of the registration and commercial laws we have outlined, through two governmental departments, namely, SECNAVES and the Public Registry, a semi-autonomous agency of the Ministry of Government and Justice. After the initial request for registration is made by a Panamanian lawyer to SECNAVES or to any of the special Panamanian consulates abroad empowered to register vessels, it follows that the owner's title to the ship and any mortgages on it must be recorded at the Public Registry, in order to protect the respective rights. The ship is provisionally entered in the Panamanian registry and titles and mortgages are preliminarily entered also at the Public Registry.

Legal title to a vessel will be established when its document (Bill of Sale or other supporting
evidence) of title is recorded at the Public Registry office in Panama. But such registration need not be effected in Panama right at the start. By means of Law No.14 of 1980, a special system for the registration of titles and mortgages was created. According to one of its "fathers", Dr. José Angel Noriega,

This law created a more practical system than Law No.40 of 1956, since instead of requiring their handwritten registration in large and bulky volumes at the Panamanian consulates abroad, it provided for a new system in which the interested party just fills out a form before the Consul, detailing the major items contained in the mortgage. The Consul then transmits these details via telex to the Panamanian public registry, where the information is microfilmed and the provisional registration is thus executed. The interested party then has a six-month period in which to file the documents necessary for the final registration of the ship's mortgage. This system is also applicable in the registration of deeds. Law No.14 of 1980 allows the mortgagee to obtain a quick mortgage guarantee and to ensure the money needed for purchasing the vessel. This, in turn, makes it easier for the vessel to enter the Panamanian registry.

Finally, we note briefly the main aspects of the most recent changes to Panama's commercial legislation, Law No.43 of 8 November 1984. This law is also about mortgages and was prepared by the Maritime Law Association of Panama in order to address some problems that had arisen with respect to substantive provisions of the Commercial Code. The basic innovations included in this law deal with: interest rates, marginal notes, the need to fix the value of the vessel in case of auction, aspects regarding revolving credits, formalities of
the mortgage, multi-currency, presumption regarding sums owed, private sale, publicity of the private sale, how to fix the manner of payment and the interest rate, preliminary registrations made in Panama, preliminary registrations made at night, preliminary registration of discharges or amendments to mortgages, possession and administration of the vessel in case of default, formalities of the sale of a vessel, and clarification regarding the preliminary registration fees. 30

**Fiscal Laws**

Under this heading we shall mention that Titles II and IV of the Fiscal Code of the Republic of Panama establish the basic fees for the registration of ships and the annual and other taxes that these must pay to the National Treasury. Greater clarification as regards the tax régime applicable to Panamanian vessels was obtained with the promulgation of Law No.4 of 24 February 1983, in which we find a detail of all fees and payments to be made by each vessel registered in the Panamanian fleet, according to its tonnage and characteristics. 31

Although not of a fiscal nature, but because they are promulgated under the authority vested in the Ministry of Finance and Treasury to act as a national maritime administration, in Annex I we include a list of other legal provisions affecting ship registration in Panama.
Development Goals

Consonant with what we have stated should be the goal of Panama's maritime administration, after this brief overview of the system's legal framework we are able to ascertain that there are really no major legal changes required in order to improve the performance of the fleet. This serves to confirm our contention that it is in the field of maritime safety administration and employment of national seafarers that SECNAVES should place greater emphasis during the period 1986-2000.

As regards the developmental goal of achieving a better maritime administration structure, in order to fully comply with international safety and pollution standards laid down by IMO, we must signal at this stage that the current setup is basically sound, as we have mentioned earlier, and that what needs to be done is to introduce some new procedures for carrying out duties related to casualty investigations and to perfect the new licensing and examination system that will be formally inaugurated in November 1985. (See Fig. 4.)

The effect of introducing sound procedures for conducting casualty investigations will be to further improve the image of Panama as a serious tonnage operator, a measure that will undoubtedly gain the acceptance of banks and underwriters from all over the world. This should be done in order to improve the safety record of the Panamanian fleet
as a way of incentivating new registrations. The overriding goal and concern of introducing the casualty investigations procedures should remain, however, the need to work actively to reduce the loss of life and prevent the pollution of the marine environment that are usually associated with vessel casualties.

Other measures that could be introduced by SECNAVES as a way of strengthening the Panamanian maritime safety administration include measures to exercise a more effective control over classification societies authorized to issue certificates under international conventions, the improvement of surveys carried out under the Annual Safety Inspection Program, and the fostering of training efforts aimed at building up Panama's own cadre of surveyors and maritime safety administrators. Reduced manning scales should also be studied.

At the national level, we believe it would be convenient to begin considering the feasibility of introducing port state control measures contemplated under several IMO conventions. In this regard, consideration must be given to the fact that, as part of the duties it will be assuming when it takes over the Panama Canal in 2000, Panama will be required to have this type of operation in place in order to cope with high traffic levels and the increased possibility of marine casualties and pollution incidents that this will undoubtedly engender.
A final recommendation we wish to make for implementing our strategic goal of developing Panama's national maritime administration, taking advantage of the fact that these are times of recession and low activity, refers to the need to improve local shipping regulations. This could contemplate, for example, the adoption of measures to control pollution coming from ships transiting our territorial waters en route to canal waters, collision regulations for areas with high traffic density, and general surveillance mechanisms for the country's exclusive economic zone.
CHAPTER FIVE

THE NATIONAL PORTS

In order to understand ports development in the Republic of Panama, it is necessary to underline the fact that, despite the existence of numerous natural harbours within the national territory, the country has had scarce and only recent experience in administering ports. This can be traced to several reasons. For one, we find that the two main deepwater and international ports - Balboa and Cristobal - were under complete US control until the 1977 Panama Canal Treaties came into force on 1 October 1979. On the other hand, we find that the other two important ports - Armuelles and Almirante - are under a concession to the banana-exporting transnational Chiriqui Land Company. This leaves us with a better appreciation of the situation, if we only realize that until some six years ago, only ports of minor traffic were under complete Panamanian control.

It is against this background of a young and inexperienced national ports administration that we must evaluate contemporary ports development in Panama. In evaluating this performance, moreover, special care must be taken to account for the fact that, as per canal treaty provisions, some aspects of the adminis-
tration of Balboa and Cristobal are still handled by the US; these include marine traffic control, pilotage and defense in both canal and port waters.

The National Ports Authority (APN), as described earlier, is the Panamanian Government agency in charge of the country's ports. The institution was created on 2 May 1974 by means of Law No. 42, as the administrating agency of the national ports network as per its stated functions and under the guidance of its Board of Directors. In this respect, although it would seem advisable to change the current administration from a national to a private one in the light of the successful examples we find in European ports such as Rotterdam, according to its enabling legislation the APN's main goals are: to promote, guide and plan the governmental policies aimed at developing any and all Panamanian ports; to build, improve and preserve existing infrastructure for public commercial use; and to exploit and improve ports services offered by the Republic of Panama. This means in effect that the APN undertakes both developmental and operational functions in the same house, a fact that somehow seems to constrain the ability of its officials to work on both at the same time and with the same degree of success. An organization chart of the APN is available in Figure 5.

At the time of this writing, seventeen ports of varying sizes and types constitute Panama's ports network. At present, however, only Balboa and Cris-
tobal are the subject of APN attention and this is due to the fact that in the eyes of the Panamanian administration, as expressed by APN Director General Raúl Brostella, "the most important thing is to seek efficiency without sacrificing the historical and nationalist value of Balboa and Cristobal." 33

Until early 1985, all APN actions for the development of these two ports could be found within the set of recommendations contained in the "Master Plan for the Development of Balboa and Cristobal", a study conducted in 1981 by the consulting consortium of LM/TAMS, at the request of the Panamanian Government. This Master Plan was prepared on the basis of facts collected in 1979, when the ports came under Panamanian control, and generally reflects a situation characterized by outdated infrastructure.

After having closely followed the Master Plan until the early part of this year, by mid-1985 the APN had decidedly altered its course of action in favour a new and ambitious project called "Panama Centreport". The project as such was originally outlined by Panama's President, Dr. Nicolás Ardito Barletta, in February 1985, when he created a national committee for evaluating its potential and feasibility.

As we have mentioned in our Strategy, "Panama Centreport" is a positive initiative and a challenge for Panama. The ambitiousness of the project indicates, on the one hand, a governmental willigness
to continue fostering Panama's maritime development and, on the other, a welcome degree of sensitivity towards technological developments in shipping. The project is, in essence, another attempt to keep Panama on the map of the world's principal trading routes, a second non-marine alternative to the Panama Canal.

What Panama wants to develop is a transportation alternative known as a land bridge, which arises from the ease with which containers can be moved from one mode of transport to another during the same voyage. Aware of the fact that in a transport system consisting of nodes, links and flows, ports are a particularly important node lying at the interface between the sea and land links, Panamanian authorities have conceived the project as a big container transshipment center formed by joining the existing port infrastructures of Balboa and Cristobal via the transisthmian railroad and highway system, a feat only possible thanks to the country's geography. The service is mainly aimed at benefitting the world's big intermodal operators and the round-the-world container transport services.

As outlined up to now, the project seems worthwhile pursuing. In order to go ahead with it, however, Panama must solve some problems: 1) ensuring a good and steady supply of customers; 2) obtaining the financing for reconditioning ports, roads and the national railroad; 3) addressing the problems associated with port labour; 4) updating legislation and the ad-
ministrative procedures for handling customs, health and other relevant matters; and generally fitting the project within the broader ports and national development schemes.

In order to guarantee, in a generic sense, the steady flow of customers required to ensure an adequate return on investments, we believe the key issue will be the reinforcement of Panama's "healthy climate". The "healthy climate" for Panama would mean the fostering of maritime personnel, legislation, development of complementary industries and the country's trade. Much as was done at the time when Panama was negotiating the Panama Canal treaties in the 1970's, it is necessary to show the maritime community today that the country is able to offer excellent conditions for the development of infrastructure services. The framework for this "healthy climate" that we speak about is provided by the national institutions; by laws and the way these laws are interpreted in national courts; by the types and attractiveness of incentives offered to both local and foreign entrepreneurs; by the availability of well-trained and English-speaking maritime personnel; and by a set of well-defined and amply-publicized rules of the game. It is our contention that the improvement of Panama's healthy climate can well be the key to the success or failure of the Panama Centreport project.

There is no need here to delve at length with the complexities of obtaining financing for maritime
infrastructure development in today's world. In the case of ports, the main financial source for developing countries has been the World Bank for Reconstruction and Development. Yet, according to Dr. E.G. Frankel, Port, Shipping and Aviation Adviser to the World Bank, this institution has recently changed its lending priorities: from previous lending policies aimed at financing new infrastructure, the bank has moved to a policy more geared towards maintenance, repair and rehabilitation schemes, technical assistance and training, and the financing of only solid projects that meet existent and future needs, reduce costs and improve the economy of the borrowing country. Competition for World Bank funds is thus increasing, while only US$ 800 million are available for some 8 to 12 four-year projects.  

Still another financial aspect that must be considered in connection with the "Panama Centreport" project is the possibility of having to resort to the granting of private concessions in order to obtain the necessary capital. In the course of an informal survey carried out by the author among leading economists and shipping men, including Dr. H.L. Beth and Dr. El A. Georgandopoulos, we were able to arrive at the preliminary conclusion that it would not be in the country's best interest to grant exclusive rights for operation of the center to an individual firm or consortium. The reasoning behind this conclusion is that there would be no guarantee, in the long run, that the operator will forever want to stay in Panama;
the fact that a government must always ensure that its options remain open in order to supply the needs of future clients; and the fact that in granting exclusive rights to one operator the country will lose at least part of its usual demand and it may not be expected that the concessionaire will be prepared to accept higher compensating dues.

In our opinion, it is essential to deal with the port labour aspects of the project at an early stage in the planning process. Containerization demands maximum cargo handling efficiency: the greater the capital cost of the vessels using the ports (in this case, the extremely expensive containerships), the more important it is to reduce port turnaround and the greater is the penalty in terms of increased costs because of deficient port services. The use of expensive equipment is another trademark of the container revolution. In the case of the Panamanian project, labour-intensiveness should not be encouraged, although we fully appreciate the political connotations of unemployment. Introducing more labour than is necessary at the quayside is a very expensive way of getting off the ground with the "Panama Centreport" project. Of course, the idea would be for the project to generate enough spin-off jobs in ancillary industries so as to absorb any redundant or new labour.

Another aspect of the port labour issue is that of training. Special and careful consideration must be given to the training of selected personnel
in port management and operations, perhaps through the sponsoring of UNCTAD courses or of courses prepared by local experts in shipping and transport economics. There is a need for Panama to increase national participation in the production and supply of port and other services to shipping, but this can only be effected via the training of personnel in charge of lending those services. Some examples of more formal training in port activities can be found in the port of Rotterdam and in the Port Workers' Training Institute attached to the Arab Maritime Transport Academy of Alexandria, Egypt.

The question of updating legislation and introducing changes into documentary procedures for customs, immigration, health and other national control activities is of extreme importance. Building infrastructures that are extremely costly only to have the trade flow stopped because some customs inspector insists on opening a container is a development that must avoided at all costs. So many changes are being introduced in this field that it is the subject of many international gatherings of commercial lawyers and many other international conventions and recommendations. The Chase Manhattan Bank is even in the process of putting into operation, by the end of this year, a revolutionary system for the centralization of documents used in usual transportation arrangements: SEADOCs. As outlined, the system will do much to improve the problems associated with bills of lading and normal trading.
When we speak about fitting the "Panama Centre-port" project within the overall framework of ports and other development schemes, we are talking basically about the second of the development goals we have outlined in our Strategy for national maritime development in Panama. We can never overemphasize the need for project developers to keep always in mind the needs of Panamanian importers and exporters and of the country's foreign trade. Although there is no organization such as a shippers' council or freight booking bureau in Panama, port users can voice their opinions via strong and reputable organizations such as the Sindicato de Industriales de Panamá (Panamanian Industrialists' Union -SIP) and the Asociación de Usuarios de la Zona Libre de Colón (Association of Users of the Free Zone of Colón - AU) and it can be said that they have actively lobbied in favour of more efficient and cheaper port services.

The role of Panamanian ports in the development of Panama's hinterland has not been adequately contemplated thus far. In a country where most of the export industries are located outside the perimeter of the principal urban centers, it would seem wise to take a closer look at the possibility of improving ports infrastructures in strategic areas of the country. This, in our opinion, could serve not only the need of Panama's exports, but also the real need that exists for the Panamanian hinterland to be connected to the urban centers via as many links as
possible, to ensure a more balanced regional and social integration of the country.

From the point of view of importers and exporters, as we have pointed out earlier, the goal of developing other national ports could offer an alternative solution to some of the port problems that they are currently facing and which, we have every reason to believe, will probably be aggravated and not solved by the new port development project for Balboa and Cristobal. AU spokesman Wellington Fung has indicated that 75 per cent of all cargo handled in these two ports is somehow connected to the operations of the Free Zone of Colón, the second largest in the world after Hong Kong. Being the main users, Fung argues, they bear the brunt of costs and of existing deficiencies in port operations.37

SIP President George Richa has pointed out another angle of the problem:

We, the Panamanian industrialists, cannot export competitively, since the cost of cargo handling and freight rates weigh too heavily on the cost of the Panamanian goods. Since the country fully imports raw materials, products with an aggregate national value receive a double impact....In the last report submitted by the Caribbean Basin Initiative, Panama appears as the country with the greatest deficit in exchange with the United States.38

Following along the lines of our argument, it seems inevitable to ask how does the ports development scheme being espoused by the APN fit within the national development strategy. Obviously, in this connection we must bear in mind that projected income
and job figures do not give a complete picture of the potential impact of the scheme on other national maritime activities.

The impact of both the "Panama Centreport" project and of other port developments in Panama should be basically evaluated against the background of both maritime ancillary industries and the Panama Canal. The former we shall discuss, albeit in a brief manner, in a separate chapter. Yet here we do want to make a general comment regarding the impact that ports development in Balboa and Cristobal can have on Canal traffic and revenue levels. Panama is treaty-bound to ensure the optimum operation of the waterway, including the adoption of all measures necessary to make it profitable and efficient. Ideally, the implementation of the "Panama Centreport" project should not take away tonnage from the canal, but rather attract new tonnage towards its waters, possibly the small feeder containerships that will be undoubtedly making the trip from Panama to other areas of Latin America and back, as well as the huge round-the world containerships now in operation.

Before we conclude our consideration of ports development for Panama's future, it is essential to say a word of caution. Although the "Panama Centreport" project is essentially a sound one and we would expect to see it turn into a reality in the near future, we feel that there is one pre-requisite for success that our policy-makers have seemingly over-
looked: the cooperation or, at least, the tacit acceptance of, the project on the part of other Latin American states. Ruling out the more ambitious possibility of integrating port services at the regional level, as seems sound in view of the market limitations present in the countries of the area, this acceptance of the Panamanian project must be forthcoming at some stage or another, but preferably early on, so as to avoid any controversies that could throw the project into trouble afterwards.

A final comment we wish to make is directly related to policy-making in the container era. Here we feel it is worth remembering Dr. Frankel's dictum that "containerization is obsolete" and that modern port administrators must "move away from short-term operations management to long-term strategic management."39 For Panama, this means a thorough and first-ever evaluation of the country's real and potential needs, as well as an analysis of the shipping scene today and a projection of that situation into the future. Panamanian ports development, and especially the "Panama Centreport" project, should not be an exercise in "tagging along", just to end up with "more of the same" type of ports infrastructure that every other nation has or is trying to have, in a fruitless effort to imitate ports developments in developed nations that are now already a quarter of a century old. It would be worthwhile, instead, to try thinking
basically in tomorrow, such as the Japanese Transport Ministry has done when preparing its plans for Japanese ports development in the next century. We hope that this chapter will have at least impressed this fact upon our readers.
It has been argued by many authors that, in order to realize the full role, function and impact of maritime activities on the national socio-economic structure, it is necessary to review and study not only key infrastructure and activities, but also the host of related or support industries that are conducted in neighboring areas to serve them. In the case of Panama this seems specially important, since we have earlier indicated the existence of more than ten such industries that derive their existence from the operations of the Panama Canal, the ports of Balboa and Cristobal, and the open registry fleet. Under this heading, then, we refer to the following: (1) cargo handling, (2) lighterage, (3) transportation, (4) warehousing, (5) the Free Zone of Colón, (6) shiprepairs and shipbuilding, (7) ship stores and supplies, (8) bunkering, (9) shipping operations, (10) ship agencies, (11) freight forwarding, (12) banking, (13) commerce, (14) telecommunications, and (15) tourism.

For most of these activities, at we have indicated before, we have not been able to gather precise figures or other hard performance indicators.
Given the fact that, generally speaking, the total export of goods and services (basically to the Canal area) reaches around 40 per cent of the GDP, and considering also the huge volume of traffic generated by the ports and the canal, for which figures are available herein, we are able to arrive at a better idea of their relative importance within the framework of the national maritime sector. However, independently of the fact that data is not available, there are some concepts regarding these industries and activities and the way they can be improved within the framework of our strategy that we would like to express here.

As regards cargo handling, lighterage, transportation, warehousing and freight forwarding, we wish to underline two aspects that we consider crucial. First we have the issue of personnel, and the need to generally and quickly improve training, recruitment and management policies with the overall aim of increasing productivity and streamlining port operations. Second, improvements in road, rail and storage infrastructure and facilities should be incorporated into either ports or public works budgets, mainly in the light of current work volumes and of the projected expansion of port activity that will be generated via the "Panama Centreport" project. An area of special priority should be trucking, road and rail haulage, which seems to be deficient today. Both training and infrastructure development schemes
should, in our opinion, reflect real needs and feasible growth projections, but should also address the main issue of the need to respond to containerization handling with greater efficiency.

The Free Zone of Colón is a major activity in Panama, generating close to US$ 50 million annually by way of salaries, taxes and charges levied on companies operating there, and the import and processing of raw materials for re-exportation. Because this activity has been severely hit by the economic burden of Latin America's huge foreign debt and the consequent reduction in the purchasing power of the countries of the area, its main clients, great efforts should be made to widen the market via: (1) a revision of current legislation to strengthen investment promotion, (2) a revision of existing infrastructures and facilities to ensure an adequate provision of basic services and specially telecommunications and optimum port operations, (3) the setting aside of areas for future expansion.

The shiprepairing industry we have discussed earlier, although briefly, indicating that it is an activity with what we consider to be an enormous potential for quick growth with minimum efforts. In Panama there are currently two small shipbuilding yards that work only on small craft and fishing vessels and which are now operating on a very low profile because of certain problems associated with the fishing industry. These two yards, even though
small, could be revived if adequate measures are
taken to promote fishing activities, as has been
suggested in our Strategy for the fishing sector.
With respect to shiprepair yards, on the other hand,
we have already discussed the slow and steady growth
of ASBA over the past three years. Now we must men­
tion the existence of another small yard at Samba
Bonita, on the Atlantic side, near Cristobal, which
can accommodate small ships, fishing vessels and
recreation craft. For these two yards we propose
the re-introduction of a previous clause contained
in the US Code of Federal Regulations, whereby ships
transiting the canal in ballast, just with the pur­
pose of undertaking repairs at these facilities,
would be afforded special tolls treatment. This single
action, if adopted, could credibly augment the levels
of activity of both yards in a relatively short period
of time.

Activities relating to the transit of ships
through the Panama Canal, viz., ship stores and sup­
plies, bunkering, shipping operations, ship agencies
and telecommunications, are doing generally well,
except in the case of bunkering, where numerous com­
plaints have been voiced by shipowners because of
the extremely high price of bunkers in Panama, despite
the fact that there is a refinery operating in Bahia
Las Minas, on the Atlantic coast of the isthmus. In
our opinion, attention should be given to the bunker­
ing problem in the very short run since, considering
the overall cost structure of shipping operations, where bunkers command a preeminent role, Panama would be best off by attempting to serve its shipowner clients through a welcome reduction in the price of the bunkers and fuel available in such a strategic location. Also in this connection, it must be pointed out that this problem of the high cost of bunkers reduces Panama's competitiveness vis-à-vis other neighboring ports and could become a significant factor working against the success of the "Panama Centreport" project we are advocating herein.

Also as part of the above group of industries, we wish to mention the fact that Panama's brand new shore radio station, PANAMA INTELMAR RADIO (HPP) is an excellent addition to the existing network of top-quality telecommunications services available in the country and that the Panamanian authorities should make every effort possible to advertise its existence to the shipping community and specially to canal users.44

Banking as a leading activity in Panama also merits special mention here. Last July was the fifteenth anniversary of Panama's highly successful banking law (Cabinet Decree 237 of 16 July 1970) whereby an international banking center was created in Panama. As of the date of this writing, there are 122 banks operating in Panama under three different licenses: local, international and general. 45

Although these banks do not generally support shipping or maritime services per se, their existence
in the country does mean the presence of capital and the possibility of making some of this capital available for financing investments in maritime-related activities in the future. The banking center does today lend support to Panama's great commercial and trading activities, a fact that indicates that it is playing a significant role in the national maritime development, insofar as it sustains the vast majority of the operations of the ancillary industries under discussion in this chapter. In a broader sense, however, we wish to highlight the fact that the presence of a highly sophisticated and international industry like banking, in Panama, presupposes the existence of a favourable climate for foreign investments, one of the crucial elements of the "healthy climate" that we consider vital to an integral development of the national maritime sector. And this, in turn, is another indicator of the great possibilities that are opening up for Panama for an effective transfer of technology aimed at improving competitiveness in the highly complex, capital-intensive, international and risky maritime world.

A final comment in this chapter refers to tourism and commerce, two mainstays of Panamanian economic activity. With respect to both of them we wish to emphasize the need to promote tourism and attract to our cities and countryside the large amounts of passengers and crewmembers that transit through Panama, specially the market of cruise ves-
sels (in which Panama has, by the way, displaced Norway as the major flag). Suggestions in this regard could probably be best framed by hotel and tourist experts, but we are sure that an improvement in the transportation services to/from the port areas to the cities/interior of Panama; the promotion of one/half day sightseeing tours; the promotion of longer package tours for visiting parts of the interior of the country, especially islands and mountain regions; the education of the local public as to what tourism is and means to our economy; and, generally speaking, a more commercially-oriented and exploited tourism policy could place Panama among the top beneficiaries of this industry worldwide.

Finally, in concluding this chapter, we are inclined to state that, within the framework of the overall development strategy goals that we have proposed in this dissertation, we attach great possibilities for a relatively rapid growth to the activities we have considered here under the heading of maritime ancillary industries and that, provided conditions for private investments remain as conducive as they have been up to now, these activities should be the spearhead of progress in the field.
CHAPTER SEVEN

THE FISHING INDUSTRY

Although traditionally a fishing nation, perhaps due to the reduced internal market and the concentration of exports around shrimp and a few selected fish species, the fishing industry in Panama has grown, but not to the degree that one would have expected in a country blessed with a very long coastline and rich ocean waters. As a matter of fact, it should be noted here that the current performance of this activity, although good when compared to other maritime activities, could be greatly improved through a better understanding of the potential awaiting the country in this field.

In an earlier overview of the national maritime sector of Panama we provided the key indicators of the performance of the fishing industry. In it we highlighted the existence of an export-oriented industry that represents about the same revenues as the open registry fleet, a fact that often goes unnoticed. In that overview we also indicted that the industry is a major source of employment and that close to a quarter of a million Panamanians depend on it, perhaps the best measure of its importance.

The main problems confronting Panama's fishing industry today can be characterized as follows:
(1) the need to modernize fishing legislation and to place it within the framework of UNCLOS III, and (2) the need to work on ways to increase the catch effort, diversify the fleet structure and improve its competitiveness in international markets, and to broaden the local consumption habits and thus widen the opportunities for domestic use of Panama's ocean resources.

As it is currently organized, the fishing industry in Panama has three main actors: the government, through the Directorate of Marine Resources; the shipowners, through the National Association of the Fishing Industry (ANDELAIPP); and fishermen, through several unions. These three parties work, however, under rather harmonious conditions, perhaps by virtue of the fact that the government agency in charge of supervising fishing exploitation in Panama has played a very successful role as mediator and as coordinator of the national efforts aimed at increasing the benefits that the country derives from the extensive resources it has in this area.

The industry has been bent, for more than a year now, on the drafting of a new fishing law that can allow Panama to benefit from its exclusive economic zone and also increase the competitiveness of the national industry with respect to other foreign fleets and industries. Through the proposed legislation, which has been revised at a very early stage by the author, the industry endeavours to solve
some of the key problems it confronts, and which can be summarized as follows: (1) high fuel costs, (2) increase in the cost of spare parts in the order of 25% in 1976 and 10% during the last four years; (3) reduction in the catch and export volumes; and (5): reduction in the value of exported volumes of fish and shrimp.

From the above list we see that an item already familiar to us with respect to ancillary industries reappears: the high cost of fuel. This problem, in our opinion, should be dealt with in the manner generally prescribed earlier, although we would also favour the introduction of a special, temporary subsidization measure to help fishing operators in the short run, while more effective and healthier ways are institutionalized via the proposed fishing legislation now in the making. This temporary subsidy could take one of several forms, although we would be inclined to adopt some form of tax break.

On the subject of the fleet, as we have explained above, the main objective should be to revise its overall performance, diversify it with respect to ship types, in order to be able to catch other types of fish, and then work hard on both catching and selling the catch in carefully selected markets abroad. Yet it must be borne in mind at all times that such a strategy for the fleet can only be successful provided the new legislation is able to correctly reflect the potential opened up by UNCLOS III and to translate it
into coherent, workable policies.

Finally, as regards local consumption of fish products and the reduced size of the local market, we would want to underscore the point that it would in Panama's best interest to tackle both these aspects with great seriousness, in the light of the varied and significant efforts being undertaken in many nations to do the same, and to teach the population to eat fish, an excellent source of protein and one that would be available to Panamanians easily and cheaply, if exploited in a good way. Here, we find that the examples of research and advanced development programs in fishing such as exist in Portugal and several other European and Asian countries are worth studying.

A final comment we wish to make with respect to the fishing industry in Panama refers to the need to both reinforce the technical staff of the government agency in charge of supervising its development and of the personnel working in the industry. This training component, as we have pointed out elsewhere in our Strategy, assumes paramount importance in the case of Panama's fishing industry, which needs to be developed along the lines of modern technological and scientific advances, if it is to ensure an adequate food supply, export revenues and technological transfer.
Fig. 6.

PROFILE OF THE PANAMA CANAL

ELEVATION IN FEET

Tide +11.54 ft

HIGH TIDE +11.80
LOW TIDE -11.16

HIGH TIDE +11.80
LOW TIDE -11.25
Fig. 7.

PANAMA CANAL COMMISSION

PRESIDENT OF THE U.S.A.

SECRETARY OF DEFENSE
SECRETARY OF THE ARMY

BOARD OF DIRECTORS

ADMINISTRATOR

DEPUTY ADMINISTRATOR

SECRETARY

FINANCIAL MANAGEMENT
EXECUTIVE ADMINISTRATION
EXECUTIVE PLANNING
PERSONNEL ADMINISTRATION
GENERAL COUNSEL

PUBLIC AFFAIRS/INFORMATION
INDUSTRIAL RELATIONS
EQUAL OPPORTUNITY
OMBUDSMAN

ENGINEERING AND CONSTRUCTION BUREAU

ENGINEERING
INDUSTRIAL MAINTENANCE
ELECTRICAL
DREDGING
CONSTRUCTION MGMT.

MARINE BUREAU

LOCKS
NAVIGATION
BOARD OF LOCAL INSPECTORS

GENERAL SERVICES BUREAU

STORE HOUSE
MOTOR TRANSPORTATION
FIRE
CANAL PROTECTION
COMMUNITY SERVICES
SANITATION AND
GREENS.
CHAPTER EIGHT
THE PANAMA CANAL

Exactly six years after the entry into force of the Torrijos-Carter Treaties for the Panama Canal of 1977, the "Eighth Marvel of the World" (See Figure 6), its administration can proudly boast an excellent operating condition, a high transit capacity, a speedier transit service, an outstanding safety record, and an overall harmonious working environment. This is, in our opinion, an outstanding achievement for the Panama Canal Commission (PCC); mainly because it signifies the stabilization of potentially detrimental emotional conflicts and the consolidation of conscientious efforts directed at implementing treaty provisions in the best manner possible.

Despite a downturn in traffic levels during 1983 and 1984, basically due to worldwide recession and the opening of the trans-isthmian oil pipeline, the PCC has recently announced that there has been a modest recovery in traffic levels during the first half of 1985. As seen in Table 3, traffic projections made by the administration for the years until 1987 are the following: 11,730 oceangoing transits and US$303 million in tolls revenues in Fiscal Year 1985; 11,965 transits and US$310 million in tolls in
## PANAMA CANAL COMMISSION TRAFFIC ESTIMATES (1985-1987)

<table>
<thead>
<tr>
<th></th>
<th>Fiscal Year 1985</th>
<th>Fiscal Year 1986</th>
<th>Fiscal Year 1987</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ocean-going Transits</strong></td>
<td>11,730</td>
<td>11,965</td>
<td>12,085</td>
</tr>
<tr>
<td><strong>Daily Average</strong></td>
<td>32.1</td>
<td>32.8</td>
<td>33.1</td>
</tr>
<tr>
<td><strong>Tolls (millions)</strong></td>
<td>$303.0</td>
<td>$310.0</td>
<td>$315.0</td>
</tr>
<tr>
<td><strong>P.C. Net Tons (millions)</strong></td>
<td>171.4</td>
<td>175.3</td>
<td>178.2</td>
</tr>
<tr>
<td><strong>Vessel Size:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80 ft Beam/Over</td>
<td>47.5%</td>
<td>47.5%</td>
<td>47.3%</td>
</tr>
<tr>
<td>100 ft Beam/Over</td>
<td>20.4%</td>
<td>21.5%</td>
<td>22.5%</td>
</tr>
</tbody>
</table>

*Revised 5 August 1985*

Source: PANAMANIAN SHIP, MAY 1985, p. 4.
93

Fiscal Year 1986; and 12,085 transits and US$315 million in tolls during Fiscal Year 1987.  

Under its current administrative set-up (see Figure 7), and as per the provisions of the 1977 treaties on the Panama Canal, the mainstay of PCC policy os to provide efficient and economic transit services to international shipping, while at the same time meeting statutory requirements to work on a break-even basis. In order to achieve this, until now the PCC has invested heavily in canal maintenance, improvement and training programs, all of which have proven justifiable and successful thus far. As regards canal maintenance and improvements, it is worth noting that thanks to to such programs, there has been a reduction in the time spent by ships in canal waters, a good indicator of canal efficiency. An expensive, long-term project now being studied is the widening of the Culebra (Gaillard) Cut, the narrowest part of the waterway, and also of the entrances to the canal, which are now limited to 500 feet. Several feasibility studies and forecasts have also been commissioned, as well as an independent analysis of the elasticity of tolls and of the demand structure until 2010.

Aside from the great emphasis that the canal administration has placed on keeping the waterway in optimum operating conditions and even to try to make it remain a viable option for transport users in the future, special mention must be made here of the efforts undertaken also by the PCC in the field of
training for Panamanians. Consonant with treaty spirit and specific provisions for the increased participation of Panamanian nationals in all canal activities, found in Article 1 of the Panama Canal Treaty of 1977, the canal administration "is now spending over US$5 million annually on training programs designed to meet present and future needs in both technical and administrative areas." As a direct result of such efforts, "Panamanians now compose over 77 per cent of the canal's work force, and Panamanian participation has increased significantly in the higher skilled jobs, including supervisory positions. A very special development has been the constant fostering of training programs for Marine Bureau personnel, considered to be the most important of all canal employees because they are responsible for directing and executing the transit function.

In this connection, it is worth underlining that, despite budgetary restrictions (since canal users are the ones that pay for such services), the PCC has invested heavily and consistently on the training of Panamanians in the areas of tugboat mates and masters and of canal pilots. In the latter category, a special program entitled "Pilot Understudy Program" was set up in July 1983 to accommodate Panamanian officers that did not meet the usual requirements for pilot apprentices, i.e., to hold a Chief Mate or Master ticket, because of problems with the placement of Panamanians that we have discussed earlier. This pro-
gram already produced its first nine graduates, all
Panamanians, on 15 March 1985, who have since joined
the pilot force to make the number of Panamanian pilots
rise to twenty-nine.

A more recent development that likewise serves
to strengthen PCC training efforts for marine person-
nel is found in the recent formation of the Marine
Training Unit. This unit will coordinate all PCC ef-
forts to train new Panama Canal pilots, towboat mas-
ters, marine engineers, seamen, launch operators and
deckhands. The new unit is envisaged as an upward
mobility program, since it may serve also to train
the canal's future managers and senior administrators,
who will require solid knowledge of the canal's tech-
nical and operational features.

After speaking succinctly about PCC adminis-
tration and training programs, which we find to be
in an excellent overall situation, we wish now to
elaborate at some length on what we consider to be
the most crucial issue confronting, not only the wa-
terway, but the Panamanian nation itself. This is
the study of the marine and non-marine transportation
alternatives to the current Panama Canal, a study
mandated by the new treaties themselves, which state
under Article XII that

1. The United States of America and the Republic
of Panama recognise that a sea-level canal may be
important for international navigation in the fu-
ture. Consequently, during the duration of this
Treaty, both Parties commit themselves to study
jointly the feasibility of a sea-level canal in
the Republic of Panama, and in the event they det-
ermine that such a waterway os necessary, they shall negotiate terms, agreeable to both Parties, for its construction. ...
3. The Republic of Panama grants to the United States of America the right to add a third lane of locks to the existing Panama Canal. This right may be exercised at any time during the duration of this Treaty, provided that the United States of America has delivered to the Republic of Panama copies of the plans for such construction. 51

Consideration of alternatives to the Panama Canal is, in our opinion, not only a worthwhile but also a necessary task. It represents a mature way of confronting technological change and of attempting to cope with it for the benefit of the entire nation. And, in a very big and essential way, it is a way of letting Panamanians look at themselves, in the historical perspective that we once spoke about here, to revise the path trodden and to evaluate our experience with the canal. This issue, which is perhaps too close to our hearts still, and a memory too recent to dispel, is one that must be resolved before the country can effectively move ahead. What I refer to here is the need for Panamanians to get away from the mentality that Panama must eternally be equated with a canal, and for them to understand that what is ours, to keep and exploit and cherish forever, is our country's enviable geographic position and the unique narrowness and geological excellence of our isthmus. The latter is our resource, and the former just a way of making use of that resource to benefit our people and the world at large.
Consistent with the treaty provisions that we have previously quoted, great progress has already been made. Beginning on 30 September 1982, when Panama and the United States exchanged diplomatic notes for the establishment of a joint preparatory commission that would prepare the groundwork for the feasibility study of the alternatives to the Panama Canal, studies within the commission have continued. Also as part of the exchange, the two Parties agreed to invite the Government of Japan to partake in the work of the commission, in recognition of the fact that Japan is a major user of the waterway.

This past October, the Tripartite Commission presented its final report to the governments of the two Parties and to the government Japan, for their consideration and approval. In the report there is a recommendation that the three countries proceed to equally share the cost of the feasibility study that is required, and which has been valued at US$20 million. It is expected that the parties will announce their decision on this important matter in the very near future.

The alternatives to be evaluated range from several proposals to modify the present canal to the construction of a new sea-level waterway. Not under consideration under the scope of the feasibility study, but left to the jurisdiction of the Panamanian authorities, are other non-marine alternatives to the canal, including pipelines, transshipment centers, a land-
bridge. As we have pointed out, the Panamanian government is already actively engaged in the consideration of such alternatives, specially in connection with the "Panama Centreport" project.

**The Sea-Level Canal Alternative**

Many in the Republic of Panama and abroad, specially in Japan, favour the construction of a sea-level canal through the isthmus. Advocates of this alternative point out that the present canal and its outdated system of locks will soon be obsolete. They also indicate that ship sizes have grown over the past decades and that the costs for maintaining and improving the canal are becoming too high.

Opponents of the sea-level alternative distinguish several valid arguments against it. The first of such arguments is the price tag: US$ 15 billion. This amount appears to be, for them and for many of the Panamanians, too heavy a burden to place on the shoulders of a small nation of just two million inhabitants. Furthermore, current traffic levels do not seem to justify the investment and indeed signal a doubtful recovery of the invested capital. Finally, the possibility of joint financing by Panama, the United States and Japan again raises questions of national sovereignty which always complicate negotiations and partnership arrangements.

Economics of ship size are also used by the opponents of the sea-level canal alternative. After
the oil crisis, the- argue, the tendency towards a "jumboization" of vessels has been detained, probably forever. The average ship size has been stabilized and even tends to move downward, as builders and operators favour fuel economy and other means of reducing operating costs instead of economies via an increase in the size of vessels. Thus, ships currently under construction are, on the average, able to use the Panama Canal as it exists today or with minor improvements. The only notable exception are some Japanese vessels bordering the 150,000 dwt upper limit for tankers.

Excavating a new sea-level canal is a fundamental issue. (See Figure 8). It has been estimated that around 2.5 million cubic yards of material will have to be removed with the use of not only advanced excavating equipments, but also possibly through the use of nuclear power. Because of the many immigration and ecological problems that such a possibility entails, this is considered to be a major handicap of the alternative.

As it has been proposed, the sea-level canal alternative has several other drawbacks. In this sense, it is worth mentioning that its alleged unlimited capacity would not really exist, as there would be a need for massive and expensive tidal gates. The cities of Panama and Colón, the country's major population centers today, would suffer severe economic dislocation as a result of being left out of the
**EXCAVATION VOLUMES**

*(IN MILLIONS OF CUBIC YARDS)*

- **PRESENT CANAL**: 0.3
- **NEW LOCKS CANAL**: 0.8
- **SEA-LEVEL CANAL**: 2.5

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**GENERAL COMPARISON**

<table>
<thead>
<tr>
<th></th>
<th>NEW LOCKS CANAL</th>
<th>SEA-LEVEL CANAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>COSTS</td>
<td>3.5 BILLION USD</td>
<td>15 BILLION USD</td>
</tr>
<tr>
<td>LANDS (KM²)</td>
<td>30 RECOVERABLE</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>INFRASTRUCTURE</td>
<td>AVAILABLE</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>EMPLOYMENTS</td>
<td>SAME</td>
<td>REDUCTION</td>
</tr>
<tr>
<td>ECOLOGY</td>
<td>CONTROLLED</td>
<td>UNPREDICTABLE</td>
</tr>
<tr>
<td>ECOLOGIC-URBAN IMPACT</td>
<td>GROWTH</td>
<td>DETERIORATION</td>
</tr>
</tbody>
</table>

sea-level canal's proposed route (Route 10). A minimum of 30,000 people would have to be relocated in order to prepare the 500 kms needed for the canal's right of way. Almost 15 kms of dams would be required to contain the waters of Gatún Lake during and after construction; these dams would severely limit the availability of water for the continued operations of the current canal while the new one is being built. And finally, both the Inter-American Highway and the newly-built Arraiján-La Chorrera Highway would be cut off by the sea-level waterway and this would mean constructing two new bridges.

"The Panamanian Alternative"

A Panamanian engineer, Roberto López-Fábrega, of the engineering firm of López, Moreno y Asociados, S.A., has presented a new alternative to the Panama Canal. Because of its ingenuity and of the fact that it has both a lower price tag and no unsurmountable political, economic or ecological complications, the so-called "Panamanian Alternative" is now being widely discussed in Panama and favoured by many, ourselves included.

"The Panamanian Alternative" can be summarized as follows: that a new locks canal built around the existing route is a better alternative than a sea-level canal because it takes advantage of excavations already made and also of the abundant rainfall in the Isthmus. Proponent López Fábrega has prepared a study, though
not a formal feasibility study, to highlight the main aspects of his proposal and to hint at the feasibility of increasing the present canal's capacity to accommodate ships of up to 250,000 dwt (or 150,000 dwt with Phase I) through an expansion and deepening of its channel, the addition of a third set of locks, and the recycling of water from its basin. Figures 9, 10 and 11 illustrate the proposal more clearly.\(^2\)

According to engineer López Pábrega, in order to make the project feasible, it is necessary to lower the elevation of Gatún Lake from 85 to 55 feet. The Pedro Miguel Locks and the upper chamber of the Gatún Locks would have to be eliminated. Other major works involved in order to make the proposed new locks canal include the widening and deepening of the whole navigable channel; the construction of Trinidad Dam; and the deviation of the Indio River towards Lake Trinidad. Yet the entire project can be undertaken and completed, according to the proponent, without interrupting ships transits through the current canal, except for a brief period in the final stage, when the level of the lake is lowered.

Excavation works that must be undertaken for the construction of the new locks canal involve some 800 million cubic yards of material, mostly of soft consistency. A comparison in excavation volumes is available herein. According to López Pábrega, the sea-level canal would entail an excavation volume of
Fig. 9.

CROSS SECTIONS

PACIFIC  PRESENT LOCKS CANAL  ATLANTIC

MIRAFLORES LOCKS  +11.5'
MIRAFLORES LAKE

PEDRO MIGUEL LOCKS  +440'

GATUN LOCKS  -42'

SEA-LEVEL CANAL  +55'
-86'
-20

NEW LOCKS CANAL

**TRANSPORT COST**

**DESIGN CRITERIA**

<table>
<thead>
<tr>
<th></th>
<th>PRESENT CANAL</th>
<th>PROPOSED CANAL</th>
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<tbody>
<tr>
<td><strong>MAXIMUM SHIP SIZE (D.W.T)</strong></td>
<td>65,000</td>
<td>250,000</td>
</tr>
<tr>
<td><strong>TRAFFIC VOLUME (N/YEAR)</strong></td>
<td>15,000</td>
<td>34,500</td>
</tr>
<tr>
<td><strong>SHIP SIZE DISTRIBUTION (TONS)</strong></td>
<td>10,000</td>
<td>26,500</td>
</tr>
<tr>
<td><strong>TRANSPORT CAPACITY (T/YEAR)</strong></td>
<td>150,000,000</td>
<td>915,000,000</td>
</tr>
</tbody>
</table>

3.1 times as great as that for "The Panamanian Alternative".

As far as costs are concerned, there is just no comparison. "The Panamanian Alternative" has been estimated at a total cost of US$3.5 billion (in 1981 figures), divided along the following lines: US$ 2 billion for excavation, US$ 1 billion for locks, US$100 million for Trinidad Dam, US$100 million for deviating the Indio River, and US$ 300 million in dams and other expenses.

Finally, a general comparison between the two principal alternatives clearly shows the advantages of "The Panamanian Alternative". Cost advantages require no elaboration. Some land could be recovered if a new locks canal is built, vis-à-vis the need to adjudicate an additional 500 kms² of land for the sea-level canal, aside from lands for the relocation of those inhabiting the adjudicated lands. The extensive infrastructures that already exist could be used for the locks canal alternative, whereas it would have to be newly built in the case of the sea-level canal option. With "The Panamanian Alternative", current employment levels could be maintained. And, at the end, there are no unpredictable and potentially disastrous ecological consequences to worry about.

2. Ibid., p. 28.

3. For a full description of Panamanian ports movement in colonial times, see "Los Puertos y el Movimiento Portuario en Panamá Viejo" and "El Puerto de Panamá y el Comercio Interregional del Pacífico" in Panamá-Diario La Prensa, Enciclopedia de la Cultura Panameña para Niños y Jóvenes 32 (September 1985): 2-6.

4. Ministerio de Planificación, Estrategia, p. 34.

5. Ibid.

6. Ibid., p. 35.


8. Ibid., p. 2847.


10. Ibid., p. 20.

11. Ibid., p. 37.


17. Ibid., p. 6, 11.


25 B.N. Metaxas, The Economics of Tramp Shipping, p.156.


27 Ibid.

28 Ibid., pp.7,13.

29 Idem., March 1985, p.5.

30 For an excellent account of Panama's new mortgage law, see Panamanian Ship, January 1985, pp.9,11.


32 For a full description of ports administration in Panama, see Autoridad Portuaria Nacional, Informe Anual 1981.


38 Ibid.

39 Frankel, "Port Operations and Management".

40 Excellent explanations of the need to develop full maritime infrastructures and services in developing countries are available in: El A. Georgandopoulos, "Development of Maritime Infrastructure", WMU Lecture Notes, August 1984; Ahmed Abdel-Monsef, "Lectures on the Establishment of a National Shipping Industry in a Developing Maritime Country", WMU Lecture Notes, 1984;

41 Ministerio de Planificación, Estrategia, p. 59.
42 Ibid., p. 69-70.
43 Panamanian Ship, March 1985, pp. 1, 11.
46 Panamanian Ship, January 1985, p. 4.
48 Ibid.
50 Idem., March 1985, p. 4.
51 Singh, International Maritime Law Conventions, p. 2854.
52 Fernando Manfredo and Roberto López Fábrega, El Canal de Panamá: Alternatives para el Futuro, September 1982.


"Shipping in Developing Countries." Malmö, WMU Lecture Notes, 1984.


Panamanian Ship (Panama), September 1983 -October 1985.


