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Contribution to the development of the national shipping line of Angola

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CONTRIBUTION TO THE DEVELOPMENT OF THE NATIONAL SHIPPING LINE OF ANGOLA

By

Manuel Domingos Faria
ANGOLA

A Paper submitted to the Faculty of the World Maritime University in partial satisfaction of the requirements for the award of a

MASTER OF SCIENCE DEGREE in

GENERAL MARITIME ADMINISTRATION

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

Signature: Manuel Domingos Faria
Date: 19 November 1986

Supervised and assessed by: Professor Aage Os

Co-assessed by: Professor A. Monsef
CONTRIBUTION TO THE DEVELOPMENT
OF THE NATIONAL SHIPPING
LINE OF ANGOLA
The author has been enrolled for two years at the World Maritime University to attend the Faculty of General Maritime Administration, sponsored by the United Nations Development Programme (UNDP) through the Angola Government's Ministry of Transport and Communications. To those bodies a special debt of gratitude is owed.

Although the purpose of the Faculty of General Maritime Administration has not been to provide answers to each particular problem of shipping activities, it has nevertheless been able to broaden the understanding of the job of each student, to challenge some of his preconceptions, to make him learn better from experience when he gets home, because he will acquire a more realistic understanding of the causes and effects with which he must deal. This is satisfactorily acknowledged.

Special thanks are due to Professor Aage Øs for helping the author to draw this project, and for assessing its different stages with much appreciated patience and understanding.

Special thanks are also due to Professor A. Monsef for co-assessing this project.

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Many thanks to all of you who in one way or another have supported the author along this project.
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Introduction

Any object or process is an element of an integrated system, as it cannot appear, maintain or change its forms outside the connection with other things and phenomena, forming altogether what is called the universe. However, as an element, the object enters the universe in an incomplete way and, therefore, its behaviour will contribute to the good or bad picture of the universe.

All this is to say that, despite the recognition that the development of national shipping is deeply affected by the overall situation in a given country, the way it works can reduce the environmental constraints and contribute positively to the national economy.

The more a country increases its participation in the world trade, either by imports or exports or both, the more it requires human capabilities and administrative structures in order to handle the transport of that trade. And, considering that the major bulk of the commodities involved in the world trade is transported by sea, then the benefits resulting from an appropriate national maritime development, including the essential development of a national shipping remain evident.

I have proposed to myself to express some views on national shipping activities in Angola. I wish I could give solutions for the problems it faces, but Angolan shipping activities are a broad topic to speak about, even for someone heavily involved in the field. So, my aim in this study is not to give solutions, but rather to identify testable hypotheses in the hope that the findings may provide some guidelines for a particular
sector.

Angonave, a state-owned shipping company, will remain the principal object of this study, considering that all its difficulties are mostly influenced by the following points:

1- As an infant industry, it shows some weaknesses, a part of which is attributed to manning and managerial problems. As these problems cannot be solved before a considerable period of time, they produce additional costs if compared with the fleets of traditional maritime countries.

2- The development of Angonave is also affected by the country’s economic degradation, the major part of which is attributed to the war and instability that the Republic of South Africa has been carrying out against Angola since few months before Angola’s independence (1975).

As a result of this destructive war, a number of human and economic resources are being depleted, the exports of the country have drastically dropped, and there is a lack of capital to implement an integrated development program. Angonave itself cannot escape from the consequences. As this company participates in the maritime trade in order to carry essentially national generated cargoes, the money it needs to fulfill its international obligations has to come from the National Bank of Angola. Due to priorities, this operation is sometimes postponed or is not made with the necessary speed to avoid prejudices to the company.

Finally, in the achievement of the proposed goals, this paper will be organized in five chapters.
The first chapter is intended to give general information on Angola. The geographical situation of Angola, as well as its population, history, economy, and political system will be described.

Chapter two will present the background of Angolan shipping. The situation in 1975, year of the independence of Angola, the reasons beyond that situation, and the emergent needs that has motivated the creation of a national shipping line will be analysed. In this chapter "Angonave", the established shipping line will be further described.

Chapter three will touch upon the problems of Angonave, such as manpower, capital, and problems derived from other sectors with which the company has functional links.

Chapter four will attempt to show the implications of the problems of Angonave in its costs.

Chapter five will end this paper with a conclusion and suggestions.
Chapter 1 - Facts about Angola

1.1 Geography

Angola, on the coast of Africa, has an area of 1,246,700 square kilometres, which makes it the second in size, after Zaire, of the countries lying south of the Sahara. Angola has got 18 provinces, of which Luanda is the capital. Cabinda, one of the provinces, is physically separated from the others by the Zaire river. This province, between a longitude of 4 degrees and 21 minutes to 5 degrees and 46 minutes south; and a latitude of 12 degrees and 2 minutes to 13 degrees and 5 minutes east, is surrounded by the People’s Republic of Congo as well as the Republic of Zaire. Meanwhile, the largest part of Angola, between a longitude of 5 degrees and 49 minutes to 18 degrees and 3 minutes south; and a latitude of 11 degrees and 40 minutes to 24 degrees and 5 minutes east, is bounded on the north and north-east by the Republic of Zaire, on the south-east by Zambia, on the south by Namibia and on the west by the Atlantic Ocean.

1.2 Population

Angola’s population was estimated at 7,100,000 in 1981; a total of 9,285,000 was projected for 1990, assuming a crude birthrate of 47 per 1,000 people, a crude death rate of 19.1, and a net natural increase of 27.9 during 1985-90. The average density in 1981 was 5.7 per square kilometre. About 15% of the population was urban in 1982. Luanda, the capital, had an estimated 1,200,000 people in 1982.
1.3 History

Originally inhabited by people of the Khoisan group (Bushmen), Angola was occupied by various Bantu Peoples from farther north and east between the 14th and 17th centuries. By the 15th century, several African kingdoms had developed; the most notable were the kingdoms of the Kongo and Bantu Peoples.

The Portuguese arrived on the coast in the late 15th century, and Luanda was founded as a trading settlement in 1575. The Portuguese developed trade with African nations, particularly with the Mbundu, whose ruler was called the Ngola (from which the name of Angola comes).

The slave trade assumed paramount importance during the 17th century, when the slaves were carried to Portuguese plantations in Brazil. From the late 16th century through the mid-19th century, Angola may have provided the "New World" with as many as 2 million slaves, not counting all those who died before embarkation or during the "middle passage" of the ocean. Slavery was formally abolished (with a 20-year grace period) in 1836, although under Portuguese rule forced labour was common until the early 1950s. However, Portugal cannot be said to have had any real control over Angola until late in the 19th century, despite its role in altering the natural development of African kingdoms existing in Angola. This weakness derived partly from the industrial backwardness of Portugal, partly from the rivalry of other imperial powers and partly from the strength of the African kingdoms which faced and resisted a long Portuguese invasion.
The colonization from Portugal prevented Angola’s peoples from developing themselves as a cultural, political and physical unity and, therefore, in 1975, when Portugal was forced to withdraw its forces from Angola, the colonial legacy was 99% of illiteracy and ethnic resentments. Therefore, it can assuredly be said that Angola entered and left the colonization with the same hoe.

1.4 Economy

Large in area, and with a great diversity of climate, Angola is suited for many agricultural crops. Furthermore, the country is blessed with numerous mineral deposits of great market value. Until 1973, Angola’s economy was dominated by agricultural production, most of which was exported. Coffee was the leading product, and sugar, sisal, bananas and corn were also important. In 1973, for the first time, mineral displaced agricultural commodities as Angola’s leading export. Oil ranked first among all export products, but diamonds, iron ore, and copper made significant contributions as well. Nowadays only oil is above 1973 levels and it is the chief source for foreign exchange, despite the recent drop in its price.

1.5 Political System

The Popular Movement for the Liberation of Angola - M.P.L.A. -, founded in 1956, and which emerged to a party - The M.P.L.A. - the Worker’s Party - in 1977, has been leading the Nation since its independence in 1975 as the legitimate representative of the Angolan people.
The political economic and social leadership of the Party is aimed at getting the prosperity for the country, promoting social justice, and welfare of all the people. Through the Party, economic, social, and cultural solidarity is promoted among all the regions of the Republic for the common development of the entire Nation.

The chairman of the M.P.L.A.-Worker's Party, who simultaneously is the Head of the State, is President Jose Eduardo dos Santos.
Chapter 2 - The Background of Angolan Shipping

2.1 The situation in 1975

The year 1975 sets up the end of five centuries of Portuguese influence and domination in Angola. The final evaluation of this crusade to Angola can be expressed by an output of 99% of illiteracy in 1975. So, I could say that it is just a matter of colonialism, as there is no good or bad colonization. All of them are aimed at exploiting peoples on the basis of the confrontation of different nationalities, languages, cultures, ethnics, beliefs and religions.

From the late sixties up to 1973, new investments in the agriculture, in the exploitation of raw materials and in infrastructure gave rise to economic progress in Angola. This undoubtedly meant economic growth. However, it was economic growth without development so far as the African population was concerned, because the African population continued to be effectively debarred from any participation except as cheap labour. The immediate consequences were that, when a massive exodus of Portuguese families started in the summer of 1974 and culminated in an impressive airlift operation before Angola's independence, on 11 November 1975, not a sufficient number of experts, with appropriate skills in many fields, was left to keep the agricultural and industrial infrastructures going, as well as the medical, social and administrative services.

This is also true when it comes to maritime activities. During the colonization, Portugal relied too much upon a monopolistic transport service with its colonies rather
than to develop a wider shipping service, which by reasons of competition would bring much more knowledge and many more skills in this sector to Portugal.

The companies which traded with Angola were the Companhia Nacional de Navegacao, the Companhia Colonial de Navegacao and the Companhia Uniao Fabril, all of them privately owned companies. The headquarters of these companies were in Portugal, and Angola was left only with quite insignificant branches where no Angolan person was allowed to take even the lowest position of responsibility. So, in 1975 no Angolan had enough knowledge and experience so as to help the State to build up a reliable national shipping company. It was necessary to send people abroad to get in touch with this particular activity and to get the co-operation of foreign experts.

2.2 Reasons for the establishment of the National Shipping Line

2.2.1 Preventing disruptions

Today International Shipping operates in a field of tension, because a group of countries, on the basis of their different economies, operate with a different set of aims in shipping. The overall contradictions between the capitalist and the socialist systems is supposed to increase this tension. That is why the major power countries, motivated by the psychology of war, retain a large merchant marine, even in peace-time, for two reasons:
1- to preserve a pool of nautical skills
2- to have some national tonnage available for essential supply purposes in times of hostilities.
So, one of the reasons for the establishment of Angola's shipping line was the transport of the country's essential trade and the prevention of possible disruptions, as the shipping line enables the country to be more independent of importing services, which can be unavailable, or can be obtained at the price of political concessions.

2.2.2 Preventing discriminations in freight rates

Supposing that Angola had not established its own shipping line, the probability of discrimination in freight rates would be much more sensitive as Angola still bears the largest part of the transport costs derived from its foreign trade. This conclusion comes from the behaviour of the elasticity of demand and supply of the country's foreign trade. As we know, the elasticity of demand means the degree to which demand responds to an alteration in the price level, while the elasticity of supply measures the responsiveness of the quantity to a change in price.

The most important products in the export trade of Angola are coffee and crude oil, whose supply elasticities are low nowadays. Although the demand elasticities for these same products are also low, they are nevertheless higher relative to supply elasticities. The reason is that these commodities are produced in a number of other countries that compete with Angola as suppliers in the world market. Therefore the buyer country can easily switch to another supplier. In such a situation, the supplier country, in this case Angola, has to bear the major part of transport costs. The escalation in these costs results in a decline in the FOB value of goods exported.
At the same time, the supply elasticities of manufactured goods, which comprise most of the imports to Angola from developed countries, are generally very high. Sometimes these imports are financed largely by credits, grants or loans, which tend to restrict the choice of supplier to Angola. As a result, a considerable part of the transport costs of manufactured goods produced in other countries is passed on to Angola. Therefore Angola bears a major share of the costs of transporting both its imports and its exports.

Taking into account all considerations made above, we can easily imagine the situation if Angola had to rely on foreign shipping services.

2.2.3 Considerations concerning the balance of payments

The balance of payments is a double-entry account, for the country as a whole, showing within a given period, usually a year, all the receipts of foreign earnings from the rest of the world on the one hand and the payments to the rest of the world on the other.

Transactions which take place between a certain country and the rest of the world are in fact aggregates of transactions undertaken by individuals, firms and organizations resident in that specific country and, before examining the balance of payments accounts, it is necessary to consider what is meant by "resident" for this purpose. One of the reasons for this is that, in shipping for instance, there are cases in which the tran-
sactions regarding a ship may be almost entirely concerned with places other than her place of registry, and in such cases, as for instance with long-term time-charters, short cuts, avoiding passing the transactions through the accounts of the country of registry will probably be made by those responsible for the balance of payments estimates of the country concerned.

The issue is complicated by the large number of ships registered in countries offering "flags of convenience" in which cases it would obviously be unrealistic to pass all the transactions concerning these through the accounts of such countries.1/

In this study, however, the place of residence means the place of registry.

If the main reasons for creating a national shipping line were to prevent disruptions in the transport of our trade needs or discrimination in freight rates, why do we not add to our strategy the consideration of taking it as a means to save hard currency?

Let us suppose that Angola had no national fleet. Then, its trade would be completely carried by foreign flag ships. This situation would give rise to two events:

1- The outflow of foreign currency from Angola
2- The inflow of foreign currency to Angola

Considering the first case, then the foreign flag ships had to cover their total costs in carrying the trade of Angola from the freight paid for carrying this trade.

This freight, paid in foreign currency, should meet the profit-yielding point of the considered ships. To clarify, the profit-yielding point is the rate over and above it, at which the ship is considered profitable.

On the other hand, and we are coming to the last point, the foreign ships under the service of Angola would spend money in the ports of Angola. This money, paid for in foreign exchange, would be considered as a gain to the balance of payments of Angola.

Let us now go to the other side and see to what extent the creation of an Angolan shipping company would be more suitable in terms of contribution to the balance of payments. First of all, considering that the state has the monopoly of its foreign trade, the employment of the national fleet would be safeguarded. The issue would be: unless the national company had employed a number of adequately trained personnel, either at sea or ashore, and with appropriate ships, the company would take some time before allocating earnings to the balance of payments of the country. In this case there should be the assumption that the first step would be to keep the difference between the operating costs of the fleet and the calculated lay-up costs lower than the freights earned or at least equal. As, however, this stage might not be enough to save foreign currency, the next step would be to keep all the expenses, in foreign exchange, so as to run the national fleet lower than the freights to be paid for if instead foreign ships had to carry the same cargo. This is what is expected of the national fleet in order to contribute to the balance of payments.
2.3 Description of Angonave - The Angolan Maritime Lines

2.3.1 Creation, objectives, relations

A 1977 Governmental Decree created Angonave with the main purpose of carrying the direct trade of Angola, under the best conditions of safety, effectiveness and efficiency. The Ministry of Transport, Ports and Communications has the supervisory management and control rights over Angonave. Nevertheless, Angonave is financially and administratively a self-governing enterprise. Horizontally, Angonave depends upon the National Directorate of Merchand Marine and Ports, which carries out the developmental and regulatory functions in this field.

2.3.2 Organizational structure and functions

Depending upon the General Director of Angonave there are four main departments, independent of each other but whose activities lead to the common objective of the company. These bodies which exist in contemplation of the whole are the Department of Operations, the Department of Finance, the Department of Administration and Personnel, and the Technical Department. To fulfill their duties, all these departments have their internal divisions. The functions related to each one of Angonave’s departments are as follows:

Department of Operations - the functions are associated with the earnings of the ship, i.e., responsible for
obtaining cargoes, scheduling, ordering bunkers, making arrangements for the loading and discharge of cargoes and associated port activities, chartering of ships, relations with representatives and agencies abroad.

Technical Department - has the functions of ensuring that the ship is available to the operators for the maximum time possible. This includes equipment maintenance and operation of the ships to the requirements of the Government, classification societies and international conventions; provide adequate parts, equipment and services to ships, provide advisory and emergency services, co-ordination with the ship’s operator and other management departments to ensure that the ship is run as safely, efficiently and economically as possible; etc.;

Administration and Personnel Department - briefly the scope of this Department is as follows:
Staff - engagement and dismissal procedures, conditions of service, sickness, holiday arrangements, medical and sick leave.
Supplies - victuals (for ships), cleaning materials, packing, ropes, wires, stationary, beverage.
Premise - cooling, lighting, cleaning, maintenance and decoration, fire protection and safety, repairs and maintenance.
Furniture and equipment - purchase, repairs, maintenance and renewals, telephones, telexes, typewriters, photocopiers, etc.
Insurance - staff and office protection, accident records, first aid facilities.
Miscellaneous - mail distribution and dispatch, periodicals and newspapers, hotel and travel arrangements, ticket and visa collection, etc.
Financial Department - has the functions of presenting relevant, up to date and accurate information to the management to assist in the operation and control of the business, by showing the total costs of each department for a period of time; carrying out the budgeting plan; dealing with staff wages and salaries; ensuring that the money is promptly transferred abroad whenever the case for doing so arises.

2.3.3 Labour Force

The size of Angonave's labour force is 605, from which 463 are sea-going personnel; the remaining 142 shore based personnel. The number of foreign officers on board the ships is 56; 24 out of 407 national sea-going personnel are deck officers and ratings, whereas 27 are engine officers and ratings.2/

2.3.4 Fleet

With only one exception, all Angonave's ships are 'tween-deck vessels, suited for carrying a large number of separate shipments on each voyage.

Angonave’s present assets are as follows:3/

<table>
<thead>
<tr>
<th>NAMES</th>
<th>BUILT</th>
<th>GRT</th>
<th>NRT</th>
<th>DW</th>
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</thead>
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<tr>
<td>Ngola</td>
<td>1961</td>
<td>9 443</td>
<td>5 487</td>
<td>11 522</td>
</tr>
<tr>
<td>Hoji Ya Henda</td>
<td>1976</td>
<td>8 792</td>
<td>6 516</td>
<td>15 300</td>
</tr>
<tr>
<td>Karipande</td>
<td>1977</td>
<td>8 521</td>
<td>5 343</td>
<td>12 977</td>
</tr>
<tr>
<td>Joaquim Kapango</td>
<td>1978</td>
<td>4 247</td>
<td>2 602</td>
<td>7 007</td>
</tr>
<tr>
<td>Ebo</td>
<td>1979</td>
<td>8 890</td>
<td>6 381</td>
<td>14 604</td>
</tr>
<tr>
<td>Lundoge</td>
<td>1979</td>
<td>9 076</td>
<td>6 355</td>
<td>15 290</td>
</tr>
<tr>
<td>Kifangondo</td>
<td>1979</td>
<td>9 079</td>
<td>6 355</td>
<td>15 290</td>
</tr>
</tbody>
</table>

2/ Angonave, Statistical data  3/ Lloyd's, Shipping Index

16
2.3.5 Trading Area

Following the expression "shipping is the servant of the trade", Angonave's ships are picking up Angolan cargoes in northern Europe, South America, the Mediterranean and the Iberian Peninsula.
Chapter 3 - Problems of Angonave

3.1 Bureaucracy, manning and managerial skills

Tight intervention, in the everyday ship’s operation, in the form of strict and rigid imposition of rules and procedures, hampers an operator’s capability of efficient management through prompt decision making. It becomes, therefore, necessary to guarantee, in shipping, that macroeconomic decisions be made at the level of state economic management, while microeconomic decisions be taken by the enterprises. The ideal is to control without interfering or, if so, when it is necessary to make changes in the organization structure and policy. Everything will depend on the way that upward-downward information is passed on. For instance, if there is an efficient information network between the operator of a shipping line and his supervisory authority, where all the facts are disclosed in a short, clear and satisfactory way, the operator will enjoy the possibility of influencing the decision-making when, to his judgement, it is the right time to sell part of his tonnage, and, similarly, when it is the right time to invest in the new-building or second-hand vessels.

Some deviations and malpractices in the past few years in the management of Angonave led to a more stringent control by the Ministry to re-discipline the activity of the company. Today, however, it is quite difficult for one to acknowledge whether a heavier system of communication

has been institutionalized since the ministerial intervention referred to earlier, or the overestimation of the super-infra relationship by the side of the company's management leads the company to be very cautious in taking steps, even when some of these steps would fall in the scope of its administrative and financial autonomy.

Coming to the manning and managerial problems, I would like to start by saying that the two basic components which make up an efficient merchant fleet are, firstly, the ships themselves and, secondly, the personnel who man them and ensure their safety and seaworthiness.5/ The latter include not only sea-going personnel, but also shore-based personnel. Hence, it is of paramount importance to develop manpower towards its full potential for the real contribution of a fleet in the development of its country.

In relation to Angola its shipping line, Angonave, is handicapped by a general low level of education of its personnel (ashore and at sea) who, furthermore, lack experience either in shipping matters or in the operation and maintenance of the ships due, perhaps, to the conservative nature of the job Angonave performs. Angonave still has to rely upon foreign officers to run its ships, while ashore, with almost no co-operation from foreign experts, the activity is characterized by insufficient ability to organize and direct the efforts of the personnel towards a better performance of their duties, as people lack motivation and as there is an absence of a better climate, etc. It is feared that the vertical line of competences may be

undermined and that a part of the staff may become, by virtue of their knowledges and skills in their specialities, and because of the delegation to them of co-ordinative functions, the influential core of the enterprise.

3.2 - Capital

Angonave is a substitute-import industry. This means that it generates revenues in a non-convertible currency (Angolan currency), or in a foreign currency (from C&F cargoes) which, by its small amount, it is usually retained by Angonave's representatives abroad to face the day-to-day expenses.

The Government has, therefore, to be the principal investor of Angonave not only for the acquisition of vessels but also for maintenance, repairing facilities, etc.

As the Government faces balance-of-payments difficulties and a competing demand for capital from other sectors of the economy, the expansion of Angonave's fleet is, therefore, hindered by such constraints.

3.3 - Ships versus pattern of trade

With the unique objective of maximizing the profit, liner shipping is characterized by changes which make it much more sophisticated and capital intensive. Indeed, in the last few years, shipping lines of traditional maritime countries started to invest heavily in labour-saving ships, mainly containers, and tried to convince shippers that containerisation was the alternative for safety handling and transport, time savings, the reduction of pilferage of and damage
to goods.
As a result of this "campaign", a huge quantity of container vessels, displacing the conventional 'tween-deck tonnage, has transformed the international distribution of general merchandise, introducing a door-to-door service.

According to the International Yearbook's Register of Container Carrying Vessels, the combined fleet of full containerships and semi-containerships of the world stood, respectively, at 2,174 vessels aggregating 1,320,000 TEU, on 1 November 1982; 2,961 vessels aggregating 1,753,802 TEU, on 1 November 1983; 3,496 vessels aggregating 2,058,236 TEU, on 1 November 1984.

Of this world total, over half of the capacity is in form of full containership tonnage. The absolute increase in capacity in 1983 over 1982 amounts to 433,802 TEU. The absolute increase in capacity in 1984 over 1983 amounts to 303,433 TEU. Although some of this is attributable to new companies appearing in the yearbook for the first time with vessels not previously recorded, over 65 percent is the direct result of newbuild entering services since the last survey. Indeed, the order book for containers remains healthy with 295,856 TEU (14 percent of the existing fleet) scheduled to come into existence between 1 January, 1985 and the first quarter of 1987. Of this it was expected that 215,266 entered in service in 1985, while in 1986 the expectation is 76,600 TEU.

The revolution of container services has been extended to Angola in such a way that Angonave, compelled by the demand of the trade, is increasing the transport of containerised cargo. The share of this kind of cargo, which in 1984 stood
at 39 percent of the total cargo carried, tends to go further.

There is, however, a limitation in the sense that the Angonave’s existing vessels, being break-bulk tonnage, are not properly designed to carry containers. The only exception is the m/v J. Kapango, whose characteristics were presented on page 17, suited for carrying 8-foot containers. But, considering that the majority of containers used in Angola’s trade are 20-foot units, then the carrying capacity of the m/v J. Kapango will not be adequately optimized.

Another problem is that the containerised import traffic affects Angonave’s liquidity. The company hires all the containers its transport trade requires in the international market. However, once these containers are delivered to the consignees in order to be unstuffed, they remain there as if they were commodities.

We are before a kind of relationship where Angonave is the link between the importer of the goods and the owner of the containers. Meanwhile, from the financial point of view these links are actually distorted. Angonave charges the consignee in Angolan non-convertible currency, for overdue containers, and has to pay the owner of the containers, in hard currency, for the lease and overdue of the containers concerned. As the Angolan currency suffers from an extreme inflation, and as the charges to consignees do not follow this inflation, consignees give very little importance to sending the containers back on time to Angonave’s depot. Therefore, and in relation to Angonave’s commitments to the owners of the containers, the debts are such that they, sometimes, surpass the value of new-built containers.
3.4 Conditions of neighbouring ports

The conditions in a port, that is, the costs of entering the port and of cargo handling, and the time taken have a direct effect upon shipping costs.

The service of Angolan ports, characterized, in general, by constant waiting times and slow handling rates, has an additional effect in the present problems of Angonave. In fact the inefficiency of these ports, by bringing up the profit-yeilding point of the ships of Angonave, increases capital and operating costs of the ships concerned.

The present situation of Angolan ports is not much different from that of 1984, where the ships of Angonave stayed 935 days in ports to unload 79,000 tons of general cargo and 4,136 containers.

Under the existing handling conditions, taking into consideration that the average rate of discharge of containers in Angolan ports does not exceed 10 containers per hour per crane, we will arrive to the following conclusions:

The 8 vessels of Angonave (in this analysis it is included one vessel which sank in 1985) lost 51.73 days to unload 4,138 containers and 883.27 days to unload 79,000 tons of general cargo in 1984.

These numbers give us an individual average of general cargo of 89.44 tons per day per ship.

These rates are, indeed, very low considering that the stowage factor in this analysis is negligible.
4.1 Generalities

Shipping costs are usually divided into fixed and variable costs. Fixed costs, which are sometimes called fixed overheads or indirect costs, are those costs which do not vary immediately or significantly with the route served, while variable costs depend on the size of production. This is a static approach which analyses the costs in the short run. In longer periods of time, every cost item varies, although not in the same way. Therefore, the classification of costs into the two categories defined above is more a matter of convention than that of absolute reality. It is claimed, for instance, that in liner shipping the only variable costs are the costs of cargo handling and one must admit that there is a point here. A vessel run on a schedule service will have fuel costs which are nearly fixed, irrespective of her load factor.

Fixed costs and variable costs may fall in four other categories of costs: company overheads, operating costs (vessel’s overheads), voyage costs and cargo costs.6/

Company overheads. These are considered fixed costs and include the following items:

(i) General costs: management, office staff, financial costs (i.e.  

interest and bank charges), planning and scheduling, premises upkeep, maintenance, insurance, rates, light, heat, etc.

(ii) Selling overheads: advertising, sales, office, agency fees, etc.

(iii) Marine overheads: shore based staff, marine supervisor, marine stores control, etc.

Operating costs (vessel’s overheads). These are costs related to the maintenance of the ship in service. They are fixed costs independent of the output, and they include the following items:

(i) Maintenance and repairs: hull and superstructure, main and auxiliary engines, propulsion gear, equipment, docking launching, etc.

(ii) Surveys: quadrennial and annual surveys, collision surveys.

(iii) Insurance: hull and machinery, P&I.

(iv) Staff costs: salaries and bonuses for the crew, leave pay, social security, travel expenses, etc.

(v) Victualling, laundry, clothing, etc.
The operating costs are calculated on an annual basis and then divided by 365 to establish the cost per day for each ship in order to make comparisons between ships of a similar type.

Voyage costs. These are costs connected with running the ship under normal operating conditions. They include the following items:

(i) Fuel costs: in transit and in port in tons per day and per hour.

(ii) Port dues and charges: harbour dues, wharf dues, lighthouses and buoys, pilotage and towage, port authorities (police, sanitary, customs).

(iii) Agency expenses: all costs connected with the services rendered to the ship by the ship’s agent(s).

Cargo or direct costs. These are typically variable costs as their amount varies with the quantity and nature of the cargo handled to/from the ship. The following items are included in direct costs:

(i) Costs connected with loading and discharging of cargo: stevedores,
My aim in this chapter is to analyse one part of the fixed costs of Angonave, taking into consideration that the major part of fixed costs in developing countries goes abroad.

However, as costs and productivity are inseparable items, I would like to quote a passage of the lectures held by Dr. Monsef, Professor at the World Maritime University:

The general level of abilities or aptitudes of the labour force in a given country is influenced by several factors. A circle is noticed here; standard of living affects nutrition, which influences the health. The combined effect of nutrition and health conditions determines the working capacity which in turn affects the standard of living.

To illustrate this effects on productivity Dr. H. Correa (in Correa, The Economics of Human Resources, Rotterdam 1962, pp. 29-51) constructed a table to show the national differences in working capacity due to the simultaneous effects of nutrition and health in several countries of the world.

Taking the example of a developing country X, if a person has a 100% working capacity, according to his health conditions, the conditions of nutrition will reduce his working capacity to 56%. Besides, if a person in this country has a 100% capacity according to nutrition, health conditions will reduce it to 85%. The combined effect estimated to be $0.56 \times 0.85 = 0.48$. Other elements
rather than nutrition-healthstandard of living, are qualities inherited or acquired by the social environments, such as the spirit of teamwork, and elusive non-economic qualities.' Further: 'the level of productivity of sea labour force of a low wage country affects the total labour costs of operating its fleet. The productivity of the crew can be measured in terms of: number of manning scales, hard working ability of each man of the crew, accidents occurring per year, losses of and damage to cargo carried on board, level of maintenance performed, rate of wastage of material used, delays in voyage performance due to ship internal causes, range of turnover of sea manpower...etc.'

4.2 Labour costs

Angonave makes an extensive use of the labour force, both ashore and at sea. I will not discuss how it happened but say that the staff is protected by the existent labour-legislation, which makes it difficult for the company to dispense with surplus staff. Such an "umbrella" leads the personnel to feel secure and confident, even if their input to the achievement of the goals of the company is very low.

The legislation is not, however, the only one factor to affect the productivity of Angonave. Other factors have their participation. The main one is the imbalance between the amount of money in the hands of the population and the quantity of social production and services available to them. In fact the quantity of money is very much greater than the rise in its velocity of circulation. This will restrain the purchasing power of each
individual worker, and consequently make him feel not motivated enough in order to work.

Given these facts, let us for instance consider the sea-going personnel in the present issue and see how they affect the costs of Angonave. It was earlier said that the size of the personnel at sea is 463. Further it was said that Angonave owns 7 ships. For the purpose of the present analysis I will aggregate these ships according to their gross register tonnage. Then, we have:

6 ships of 6,000 to 11,000 GRT
1 ship of 1,600 to 5,999 GRT

For safety reasons, and to be in accordance with the STCW Convention of 1978 (International Convention on Standards for Seafarers Certification, Training, and Watchkeeping), ILO Convention nr 147, SOLAS Convention, chapter IV (Convention on Safety of Life At Sea), and other relevant international conventions, a group of experts have identified the minimum manning scale for a cargo ship of 1,600 to 5,999 gross register tonnage with periodically unmanned engine room and trading world wide as follows:

Deck Department

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Master</td>
<td></td>
</tr>
<tr>
<td>3 Deck Officers</td>
<td></td>
</tr>
<tr>
<td>1 Bosun</td>
<td></td>
</tr>
<tr>
<td>3 A.B.'s</td>
<td></td>
</tr>
<tr>
<td>2 OS/Junior/Entry Ratings</td>
<td></td>
</tr>
</tbody>
</table>

-------------------
Total 10
Engine Department

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Engineer</td>
<td>1</td>
</tr>
<tr>
<td>Engineer Officers</td>
<td>2</td>
</tr>
<tr>
<td>Electrician</td>
<td>1</td>
</tr>
<tr>
<td>Repairman</td>
<td>1</td>
</tr>
<tr>
<td>Engine Room Rating</td>
<td>1</td>
</tr>
<tr>
<td>Junior/Entry Rating</td>
<td>1</td>
</tr>
</tbody>
</table>

Total: 7

Radio Department

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio Officer</td>
<td>1</td>
</tr>
</tbody>
</table>

Total: 1

Catering Department

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Steward</td>
<td>1</td>
</tr>
<tr>
<td>Cook</td>
<td>1</td>
</tr>
<tr>
<td>Cook/Stewardess</td>
<td>1</td>
</tr>
</tbody>
</table>

Total: 3

Gross Total: 22 - 24

*) At times when it is necessary to stand continuous conventional watches the manning scale shall be increased by one Engineer Officer and one Engine Room Rating.
While the minimum scale for a cargo ship of 6,000 to 11,999 gross register tonnage with periodically unmanned engine room and trading world wide was identified as follows:

**Deck Department**
- 1 Master
- 3 Deck Officers
- 1 Bosun
- 3 AB’s
- 3 OS/Junior/Entry Ratings

**Total** 11

**Engine Department**
- 1 Chief Engineer
- 2 Engineer Officers *
- 1 Electrician
- 2 Engine Room Ratings *
- 1 Junior/Entry Rating

**Total** 10

**Radio Department**
- 1 Radio Officer

*) At times when it is necessary to stand continuous conventional watches the manning scale shall be increased by one Engineer Officer and one Engine Room Rating.
Catering Department

1 Chief Steward
1 Cook
1 Second Cook
1 Cook/Stewardess

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Total 4

-------------------
Gross Total 25 - 27

One of whom has medical training beyond First Aid training

To be in accordance with the safe manning scale mentioned above, the ships of Angonave should at one time have the following size of crew:

1 ship X 24 people = 24
6 ships X 27 people = 162

Total 186

But we will consider a coefficient of a crew change of 2, where each person on board a ship had a correspondent one ashore waiting to replace him. In addition we have to allow for a sufficient number to cover all or a proportion of the upkeep and maintenance of ships without undue fatigue amongst the staff. For this purpose we will take an extra team of 27 persons.

In the line of the present approach, Angonave should have a reasonable total of 399 seagoing personnel instead of 463 that the company presently shows.
The surplus of personnel will thus put a burden on the costs of Angonave, since it has to pay their salaries, holidays, study pay, training costs, etc.

4.3 Maintenance and repair costs

Generally speaking ship maintenance falls into two broad categories: necessity and efficiency.

Necessity maintenance is that which must be done to enable a ship to conform to the standards of the classification society, international conventions, and the government of the country of registration.7/

Not conforming with this standards may result in costs, due to detention of a substandard ship.

In general, a ship is regarded as substandard:

if the hull, machinery or equipment such as for life-saving, radio and fire-fighting are below the standards required by the relevant Convention, owing to, inter alia:

(i) the absence of equipment or arrangements required by the Conventions,
(ii) non-compliance of equipment or arrangement with relevant specifications of the Convention,
(iii) substantial deterioration of the ship or its equipment because of, for example, poor maintenance, and

7/ J.M. Downard, Managing ships, Fairplay Publications, p. 75
if these evident factors as a whole or individual make the ship unseaworthy and would put at risk the life of persons on board if she were allowed to proceed to sea.

Angonave has little choice in maintaining its ships to those standards, since port States act for the purpose of identifying a substandard ship on the aforesaid regulatory instruments.

The second category is related to the efficiency of a ship. Though there may be an overlap between them, standards for safety does not necessarily mean standards for efficiency. The hull structure of a ship may conform to safety standards internationally required and yet not be sufficiently smooth to gain extra points of fuel savings.8/

This is why many shipping companies are concerned about the efficiency of their ships. This is achieved through expert maintenance and control of the hull, equipment and machinery plant so that minimum fuel, lubricants and parts are used, and overhauls and breakdowns are minimised.

8/ Ibidi
4.4 Insurance Costs

Due to the enormous value at risk, which does not encourage a self-insurance, Angonave has insured its ships at the Insurance Company of Angola. This company, avoiding to take the risk on its own, has reinsured its policy abroad.

The insurance policy provides protection against physical losses or damages to the ships of Angonave, and partly the liability to third parties. Angonave has further subscribed a Protection and Indemnity Club (P&I Club), which is formed by shipowners, for a mutual protection against those risks not covered by its underwriter.

The premium Angonave pays for the insurance of its ships is directly dependent upon the Company's experience and record, the age and conditions of the ships, the number of the ships involved, and the expertise of the crew. So higher premium will mean higher costs to Angonave due to low performance records of its ships.
5. Conclusion and suggestions

5.1 Conclusion

In this paper I have attempted to focus on particular problems which restrain the development of Angonave with a view to offering certain suggestions to solve them. Problems related to capital, manpower, and the influence of correlated activities have been outstandingly shown in the "radiography" of Angonave, because they are the presupposition for the existence and the development of the company, and because it is believed that a better performance can be achieved.

The present organisation of the company is a consequence of economic, legal and technical forces, present personalities and past events. Angonave is nevertheless a small body of the infrastructural system of Angola. Therefore whatever has been said about its problems they would be unrealistically perceived if the situation in Angola had not been equally appreciated. I hope a clear picture has been given in the Introduction. Consequently, I would like to compare Angola with the story of the brother who before the dauntless regard of the other brothers tripped the baby brother up whenever he tried to initiate his first steps. Angola is the baby brother.

In fact the Republic of South Africa, willing to play a political and economic role all over the southern part of Africa, would not tolerate the sovereignty of the People's Republic of Angola and the position of the latter in relation to the independance of Namibia (Ango-
la's neighbour territory occupied by South Africa), and the abolition of apartheid in the Republic of South Africa itself. As it militarily failed to prevent the M.P.L.A. "Popular Movement of Liberation of Angola" from proclaiming the independence of Angola in 1975, the Republic of South Africa has adopted from that year on a policy of harassment and occupation of important areas of Angola, sabotages to the main industries, and has given logistical and military support to guerrillas to fight against the Government.

The strategy of the Republic of South Africa has been to keep up a continuous pressure in the hope of staving off a strong Angolan State, and turning the M.P.L.A. out.

Angola is therefore still forced to continue committing the major part of the national budget to defence, to the obvious detriment of other sectors of the economy. As long as this situation persists, the national economy will continue to be under strain and this will be negatively reflected in each particular sector of the Society, including in the development of the Maritime Lines of Angola -Angonave-. 
5.2 Suggestions

5.2.1 Considering the human factor

The definition of social welfare means to satisfy the needs of the people and would entail enriching the cultural specificity of a given society. Development means eradicating obstacles to effective participation of an individual in the process of socio-economic transformation. It further means liberating a society from the burden of dependency. Development, then, is a cultural reality that transforms the socio-economic structure of a society towards higher levels of well-being. 9/

The critical factor in the development process is the development of human resources. By this is meant the maximization and efficient utilization of the knowledge, abilities and skills of the people in a society. Though one may say that these individual achievements are not a direct presupposition of an enrolment in educational institutions and an attainment of certificates and diplomas, there should not be any doubt however that science is the basis of way of life and decisionmaking in any society. The role of education became popular in this century as a result of research which confirmed its significance in increasing production and general advancement. Education provides useful learning experiences, right attitudes, high values and develops the capability of creative thinking.

9/ Nader Fergany, Manpower Problems and Projections in the Gulf
Living conditions in developed countries make this fact clear to us: a person must be educated because man is both the goal and the means of development.

The significance of the human factor in any perspective of socio-economic development can be expressed by the following examples:10/

(i) There are firms that report that they have had to postpone moving into a desirable area of business because they could not get the manpower they needed.

(ii) Companies are finding that they can no longer expect that they will be able to find someone to do a job at the moment that a job needs to be done unless they have taken steps to procure, develop and properly utilize their manpower resources.

Despite the determinant role of the human factor for the success of any project, the awareness of the human element is nevertheless often lacking in most developing countries. This is due to the fact that developing countries face typical problems of under-development resulting from the population increase, low per capita income, lack of infrastructure and other barriers to social and economic development.

Coming specifically to maritime the field, we can verify that the fact that ships sometimes have to operate on high seas under the most difficult and hazardous conditions results in losses to both life and property. Every year dozens of ships are lost through accidents at sea, or are severally damaged. Available data shows that over 80 percent of the accidents occurred in the last few years were attributed to human errors, despite the fact that these ships were carrying highly sophisticated navigational equipment.

It is therefore evident that the main reason for such events is the inadequacy of properly educated and trained seafarers.

These considerations will therefore be incomplete unless an approach on the needs for trained personnel is made.

5.2.2 Training

The strong desire of developing countries to get a share of their overseas trade has made it necessary for them to acquire the requisite tonnage, and hence to make serious efforts to train their own nationals in the different specialities of seafaring to enable their ships to be operated efficiently.11/

However, the maritime industry has experimented a great technological revolution during the last few decades in ship design, shape and speed. The design of shipboard equipment such as marine electronics and control engineering have also made vast strides.

11/ Ibidi, Manpower training and development training in developing countries
This technological progress is far in advance if compared with the parallel development in educational and training facilities in most developing countries. In fact, many seafarers in these countries are unable to make use of important and rather sophisticated shipboard equipment because they have not been trained to handle it.

The reality is extensive to Angola.

Considering that no merchant fleet can ever promote the best interests of the nation unless it is manned by the nationals of the country as executive officers, engineers and seamen, Angonave should actually be concerned with the increasing demands for training of its personnel.

With due respect to the training policy the company has probably found that is suitable to its conditions and requirements, the ultimate aim, however, of any pattern of training is to produce:

(i) a seafarer who is professionally competent, with the ability to provide an effective input to the ship's operational team, and who would be conscious, at all times, of the vital necessity that the ship and its machinery installation be operated safely; and who has a due regard and respect for the marine environment.12/

At this stage Angola has not yet established its own institution to prepare its deck and engineer officers. For this purpose people have been sent abroad to countries such as, Portugal, Brazil, Cuba, Poland and Russia. Although it does not fall in the scope of Angonave's


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functions to look after those people who have been recruited by the appropriate authorities to attend nautical studies abroad, it nevertheless is the main beneficiary.

So, Angonave should maintain regular contacts with such students even if only to encourage them and perhaps to give them an incentive to finish their studies on time. Angonave should make further arrangements for sea-training of such students alongside the course to be carried out as much as possible in the ships of the company. The result would be that the problem of adaptability would not take too long when the students had to start their professional jobs. The company as well the future officers will benefit from this.

Once on duty, the Company should keep a close regard on the evolitional performance of the cadets to ensure that foreign officers on board Angonave's ships be replaced as soon as possible by capable national officers.

It should be expressed that all the efforts towards the upgrading of seamen skills of Angonave should meet at least the minimum requirements of the International Convention on Standards for Seafarers Certification, Training and Watchkeeping.

As all the ships of Angonave have more than 200 gross register tonnage, I will recall the salient features of the regulations II/4 and II/5 included in the Annex of the aforesaid convention. It should be pointed out that all the ships of non-party states will be bound to this convention when visiting ports of states which are parties to the convention.
Regulation II/4 establishes mandatory requirements for certification of officers in charge of a navigational watch of ships of gross register tonnage or more. The age limit is 18 and candidates must be medically fit, particularly regarding eyesight and hearing. The three years' sea-going service must include 'at least six months of bridge watchkeeping duties under the supervision of a qualified officer.'

Candidates must also have passed an appropriate examination covering a wide range of aspects such as navigational charts and publications; aids to navigation; radar; shipborne meteorological instruments; magnetic and gyro-compasses; automatic pilot system and procedures; ship stability; construction and damage control; power plants; cargo handling; fire prevention; maritime law (including SOLAS and other IMO Conventions); communications; life saving; search and rescue, medical care; and methods for demonstrating proficiency.

Among the additional requirements is one for an 'adequate knowledge of the English language' including the ability to use the IMO Standard Marine Navigational Vocabulary.

Considering that technology and other factors are changing rapidly, officers should keep up to date.

Regulation II/5 establishes that officers shall be required at regular intervals and not exceeding five years to satisfy their Administrations as to their fitness and professional competence.

To ensure that this can be done, Administrations are required to formulate a structure of refresher courses,
especially for re-entrance to sea-going service.

Chapter III of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 is related to Engine Department. This Chapter begins with a Regulation which outlines basic principles to be observed in keeping an engineering watch. While requirements for deck officers vary according to the tonnage of the ship, for the engineer officers the determining factor is the power of the engine.

Regulation II/2, for example, deals with mandatory minimum requirements for certification of chief engineer officers and second engineer officers of ships powered by main propulsion machinery of 3,000 Kw propulsion power or more. Candidates for certification as second engineers must have not less than 12 months seagoing experience as engineer officers or assistants. Candidates as chief engineers must have at least 36 months seagoing experience, including at least 12 months as an engineer officer in a position of responsibility while qualified to serve as second engineer officer. They must have attended an approved fire fighting course and have passed an examination covering subjects listed in the Appendix of the Convention concerned.

Regulation III/3 contains similar requirements for ships with main propulsion machinery between 750 Kw and 3,000 Kw. The chief difference between this and the previous Regulation is that the requirement for previous service for candidates as chief engineers is reduced from 36 months to 24. Officers qualified to serve as second engineers of ships 3,000 Kw or more may serve as chief
engineers of ships of lesser power, provided that not less than 12 months approved seagoing service shall have been served as an engineer officer in a position of responsibility.

Regulation III/4 contains mandatory minimum requirements for certification of engineer officers in charge of a watch in a traditionally unmanned engine-room or designated duty officers in a periodically unmanned engine room. The minimum age requirement is 18 years and candidates must also have not less than 3 years approved training or education and have completed an adequate period of seagoing service. Candidates must have knowledge of the operation and maintenance of marine machinery, together with a knowledge of watchkeeping routines, main and auxiliary machinery, pumping systems, generating plant safety and emergency procedures, anti-pollution procedures, and First Aid.

As they are easier to handle than the problem of the officers, Angonave should take advantage of the existing surplus of its ranks. This means to prepare ratings to form part of a navigational watch and of an engine room watch. This is of paramount importance not only because it would enable nationals to upgrade their knowledge but also it would allow Angonave to dispense with some of the foreign officers on board ships.

Let me once more refer to the STCW Convention of 1978 to say that ratings forming part of a navigational watch on a seagoing ship of 200 gross register tons or more shall not be less than 16 years old. Further, they should have completed at least six months’ sea-going service or
undergone special training in a prescribed number of subjects. Service of at least one year during the years prior to entry into force of the convention for their Administrations may be regarded as equivalent.

In relation to those ratings who are nominated as assistants to the engineer officer in charge of the watch on seagoing ships and having specific duties and responsibilities in connection with the safe operation and servicing of machinery, the Convention states they should not be less than 16 years of age. They should have undertaken a 'seagoing service in a engine room capacity for at least 12 months, half of which may be replaced by approved training'.

Furthermore, they should possess knowledge of the function, operation and servicing of main propulsion and auxiliary machinery; knowledge of engine room watchkeeping procedures and the ability to carry out a watch routine; knowledge of use of hand tools and portable power tools; ability to read indicating instruments to his watchkeeping duties and understand the significance of the readings; knowledge of the function, operation and servicing of the various pumping systems; knowledge of safe working practices related to engine room operations; knowledge of technical terms used in the machinery details and equipment; knowledge of engine room alarm systems, and so on.

The features that have been just elaborated do not cover all the needs of the Company in matters of training. Indeed, the situation of the ashore-based personnel requires some attention. Most of them lack enough
knowledge of the English language, which is the first and foremost international language and therefore the language of shipping.

A faster way to help the Company to overcome this problem is to adopt English as the language for overseas communication, even in the case that the mother tongue of the correspondent country is Portuguese. Parallely people demanding more needs, by the importance of their functions, should be sent abroad and put in a complete English environment for an adequate period of time. These people will be in a position to learn much more than they possibly would have in Angola, even for a much longer period of time.

To overcome the gaps in the technical aspects of its personnel, the Company should first of all identify the particular aspects where the staff show difficulties to deal with in the performance of their jobs, and then to hold short courses which should cover such selected subjects.

Considering that expertise is a mix of updating theoretical concepts, experience, and getting involved through a more diversified contacts in the shipping world, the Company should benefit from the existence of the World Maritime University as well as other related Institutions for the training of its senior personnel in various aspects of shipping and related fields concerning the improvement of maritime safety, the protection of the marine environment and the efficiency of its ships.

Forms of co-operation with well-established companies, I mean companies with capital, know-how and managerial
skills should be considered. They may provide an optimum combination which could help to expedite the training of the skills required by Angonave.

5.2.3 Cost reduction versus efficiency

Competition means parties in an unstable equilibrium in which each one has to make the maximum effort not to fall down. Competition thus leads the expertise to lessen risks and to increase chances; nothing will work without a challenge.

Angola carries out an informal cargo reservation policy which is aimed at reserving the largest possible share of the Country’s seaborne trade for the domestic carrier. This policy decisively eliminates competition of foreign ships.

The policy results in Angonave fully employing its ships in relation to Angolan inward cargoes. However, the same can not be said regarding northbound voyages of the same ships which are usually characterized by ballast sailings. This makes Angonave "half" an enterprise.

Many reasons such as the conditions of the sale/purchase contract of goods, the reliability of shipping services to the satisfaction of shippers may lead Angonave not to have access to the export cargoes of Angola. To counter these difficulties, it is important for Angonave not to sleep on the still necessary protectionism policy.

Being earlier said that competition is healthy, Angonave has to find a competitor. In the absence of outside competition, the Company has to compete with itself in
terms of reducing its profit-yielding point year after year, which means reducing its total costs and increasing the efficiency of its ships.

Safety is implied in these objectives. In fact, by meeting at least the basic minimum standards the Company will ensure that its ships are available for trading to the maximum possible extent. Time lost -through accidents, avoidable damage, correcting deficiencies, detention- means more damage, less business.

On the other hand safety and efficiency are integral to good management. They can only be the result of structured, painstaking policy and a combination of the right skills, knowledge and experience. The direct involvement of the decision-taking management in these matters is vital. The attitude of the senior management is reflected in the Company and thus directly in the work of all the Company employees. The initiative must therefore come from the top.

The International Chamber of Shipping (ICS) and the International Shipping Federation (ISF) have drawn a Code of Good Management Practice in Safe Ship Operation. Its contents reflect the best management practices of a number of different companies represented in the aforesaid international bodies.

With due regard to the practice Angonave has already adopted in this matter, I further quote the contents of the Code. They may be useful either as a check-list or as a framework for reviewing the Company methods. I quote:
Technical aspects of ship operation

Strong commitment to safe ship operation and prevention of pollution should be a paramount principle for management and all serving on board ships. If that principle is to be translated into practice, a proper organisation is necessary, in order to ensure a consistent approach both to the care of the physical state of the ship and also to the manner in which it is operated. While the master and the crew have direct responsibility for the technical and safety aspects of on-board ship operation, a department or suitably-experienced person ashore should be made responsible for those aspects from the shore standpoint.

Management -through the responsible department or person- should ensure that the following are all in order and should be familiar with the technical aspects of:

(i) the structure and stability of the ship, and the safety-related equipment on board;
(ii) specialised equipment carried, particularly cargo-handling systems and navigational aids;
(iii) documentation required to be on board, either because it attests that the ship is up to recognised standards (e.g. certificates of survey, crew certificates, etc.), or because it is necessary for the safe and proper operation of the ship (e.g. charts, guides, manuals). Care should be taken to ensure that documentation is up-to-date.

Where some of these responsibilities are delegated to the Master, management should give him full support in carrying them out.
Safety and operational policies should be clearly defined and publicised to all employees. They should be raised as a regular item for discussion both at management meetings ashore and at safety meetings on board.

Shore-based personnel

Management should ensure that the relevant shore-based personnel:

(i) are aware of the basic technical aspects of the ship and its operation (as in 1.2) and are prepared to respond to the technical and operational needs of the shipboard personnel at all significant decision stages, e.g. from ship design/ordering to actual day-to-day operation;

(ii) provide for a full and free exchange of information between shore and ship, particularly on any relevant navigational or operational matters, new technological developments, overall safety and personal safety;

(iii) understand fully the implications of commercial decisions, in terms of the safety of the ship and the possible effect on the marine environment;

(iv) make adequate provision for crew members' well-being e.g. proper accommodation and recreational spaces, proper catering arrangements, and medical care;

(v) regularly review procedures to ensure compliance with all the items in this Code.
Ship-board personnel

There should be a clear and planned approach to "person­nel" matters concerning the crews employed on ships operated by the company. It is a direct management responsibility to provide ships with qualified and reliable seafarers and to give them additional training if required.

Specifically, management should ensure that the crew members:

(i) are sufficient in number to perform the tasks required of them, bearing in mind the basic principles and guidance contained in IMO Resolution A.481 (XII) and the need for proper duty/rest periods. (Allocation to specific tasks on board should remain the responsibility of the Master);

(ii) are medically fit and have the requisite basic qualifications and experience in accordance with the Convention (STCW) and Resolutions adopted by the IMO on the Training and Certification of Seafarers in 1978;

(iii) have a proper knowledge of the technical aspects of the ship and its operation as necessary for the performance of their duties (as in 1.2);

(iv) receive any necessary additional training, either in company procedures, or for familiarisation with the particular ship or equipment;

(v) continue at regular intervals to receive information, and where necessary training, in order to bring them up-to-date with new technological and other developments;

(vi) maintain close communication with the shore-based personnel on any relevant navigational or operatio-
nal matters;
(vii) are provided with up-to-date navigational and other
documentation in a language or languages fully
understood by the crew;
(viii) are regularly reminded of the need at all times for
safe and clean ship operations, and for personal
safety on board.

3.3 Where the Master finds that the points listed in 3.2
are not satisfactorily covered, for whatever reason, it is
important that he take the corrective action and/or raise
the matter with management, as appropriate.

Emergency procedures

It is important that the authority of the Master to take
action in the event of an emergency involving the ship
should not be compromised. Proper arrangements should be
established which ensure an effective response to the
incident, both by the crew on board and by the shore-ba-
sed company organisation.

Management should ensure the development of:
(i) proper on-board emergency procedures, including
regular and realistic drills;
(ii) proper emergency back-up systems ashore, including
an effective machinery for responding to the emer-
gency;
(iii) proper procedures to be followed both by ship and
shore personnel concerning calls for outside
assistance, including particularly the engagement
of salvage services;
(iv) reporting-back arrangements for all emergencies and
near-emergencies;
(v) a system which will enable an incident to be assessed properly and any lessons to be learned.

Management and the Master should ensure that the procedures outlined in the previous paragraph are fully understood and adhered to.

Communications

It is important that management, including senior management, regularly communicates with sea-going employees. Management representatives should visit each ship from time to time in order to review practices and procedures on the spot. Seminars and briefings for appropriate personnel might also be organised.

The objective should be to "motivate" sea-going employees by providing information in clear, digestible form on a regular basis—not just during a crisis. The information should cover company policy on safety and operating practice, conditions of employment. It is essential for a climate of mutual trust to be built and maintained.

Management should develop effective two-way communication between shore-based and shipboard personnel; and ensure that technical and company information passed to the ship is properly disseminated and reactions obtained.

Guidance

In parallel with the growing number of regulations, an ever increasing amount of guidance to companies operating ships is becoming available in one form or another. This
creates considerable difficulty for companies in keeping abreast of the paper which is published.

In terms of national legislation, management will need to be familiar with the relevant legislation and guidance in (1) the flag state and (2) states and ports visited by the ship.

Internationally, management should be familiar with the basic contents of the accepted "package" of international instruments. This includes such Conventions/Protocols as SOLAS, Load line, MARPOL, Collision Regulations, ILO Convention 147, and STCW.

Also of direct importance to management is the guidance issued by national and international industry organisations, both in regard to general operational practice and to specific technical detail. These include technical guides concerning ship operations, navigational checklists, etc.
5.2.4 A look at the ships carrying capacity

Ships frequently have to shut out cargo when they still have room in their holds because they are down their "marks". These marks which are the official load-lines painted on the hulls of ships indicates the limits to which the freeboard may be reduced in certain seasons and in certain areas of the world. On the other hand, weight does not provide the only limit on the amount of goods the ship can load, space may well be the limiting factor and sometimes the holds may be full when the limits imposed by the loadline are not reached.13/

Heavy cargoes such as lead and ores will bring a ship to her loadline before the holds a full, whilst light but bulky cargoes such as wool or textiles tend to fill the holds of an ordinary ship long before she reaches her load line.

The relationship between the weight and measurement of a commodity is known as its loadability or stowage factor. In calculating stowage factors, bulk is expressed in measurement tons of 40 cubic feet and weight generally in long tons or in metric tons. If the stowage factor is said to equal one, it means that a cubic ton of that commodity weighs one ton. A cargo with a high stowage factor is one in which a ton weight will require more than 40 cubic feet of space, and one with a low stowage factor one which will require less than 40 cubic feet to stow a weight ton. Stowage factors are usually expressed in terms of the number of cubic feet occupied by one ton, as in the examples given below.

13/ O’loughlin, The Economics of Sea Transport, p. 33
Because both weight and capacity are limiting factors in shipping, freight rates are charged in relation to either ton weight or ton measurement. Frequently they are charged by measurement for cargoes with high stowage factors and by ton weight for cargoes with low stowage factors.14/

Some examples of stowage factors

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Stowage factor (number of cu. ft. occupied by one ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples in boxes</td>
<td>90</td>
</tr>
<tr>
<td>Butter in boxes</td>
<td>54</td>
</tr>
<tr>
<td>Bananas in crates</td>
<td>140</td>
</tr>
<tr>
<td>Copra in bulk</td>
<td>70</td>
</tr>
<tr>
<td>Wheat in bulk</td>
<td>47</td>
</tr>
<tr>
<td>Coal</td>
<td>44</td>
</tr>
<tr>
<td>Coke</td>
<td>82</td>
</tr>
<tr>
<td>Flour in bags</td>
<td>45</td>
</tr>
<tr>
<td>Potatoes</td>
<td>62</td>
</tr>
<tr>
<td>Beef,chilled</td>
<td>118</td>
</tr>
<tr>
<td>Sand</td>
<td>20</td>
</tr>
<tr>
<td>Vegetable oils</td>
<td>40</td>
</tr>
</tbody>
</table>

Note. The examples relate to specific consignments and are given purely as illustrations. Actual stowage factors can vary quite considerably for the same commodity, depending on packing, moisture content and other...
factors, and the only accurate way to arrive at stowage
factors is by reference to the properties of each
consignment.15/

The net registered tonnage of a ship is a rough guide to
the amount of cargo she can take where space is the
limiting factor but certain adjustments must be made.
Firstly, the cubic capacity of ships is measured in a ton
measurement of 100 cubic feet, not 40 cubic feet as cargo
tons, and secondly deductions must be made for the space
occupied by bunkers. A better measure of a ship’s
carrying capacity is the capacity in her holds and also
certain adjustments must be made according to the type of
cargo she is carrying. Two measurements are usually given
for the space in the holds; grain stowage and bale stow-
age. The former applies to the space if occupied by bulk
cargo without reference to reductions in space made by
inside beams and other protuberances, and the latter to
the space which would be available for stowage of baled
cargoes in uniform bales. But for ships carrying a varie-
ty of general cargoes consisting of boxes, barrels, bales
and other shaped parcels a further deduction may have to
be made for "broken stowage" and this can be up to 10 per-
cent. In some ships, further deductions may be made from
overall cargo space for the insulation and access to the
chill room or refrigerated capacity. Then again a ship
operating through a number of ports may not be able to
utilize all her space because of considerations of main-
taining the trim of the ship as the cargo for consecutive
ports is unloaded; because of accessibility or ensuring
that the cargo for the first port is topmost; further

15/ Ibidi, p. 74

58
because of the need to work as many hatches as possible in each port to avoid overtime and speed turn-round.16/

The awareness of these factors are extremely important for those in the office responsible for drawing a cargo stowage plan.

5.2.5 Container bases

The problem of container transits in the ports of Angola was earlier raised in this paper. So, I should attempt to evolve the idea of the creation of a container base. It could be situated in the port itself, the port environments, or an industrial area which could support the facility in generating adequate quantities of containerized import/export traffic throughout it.

The object of the facility would not only be to consolidate break-bulk compatible cargoes destined for the same area/country into full container loads but mainly to take the load and unloading container operations to be performed at the container base. The base should have the added facility of Customs clearance for both import and export cargoes.

The advantages to be derived from such a container base would be to provide services to the importer/exporter situated in the container base hinterland, and to relieve the port authority of local Customs clearance of import/export cargoes. This latter advantage tends to reduce the problems of port congestion, that is, containers awaiting clearance due to non-availability of docu-

16/ Ibidi, p. 75
ments, and enables the throughput of the container berth to be maximized. Ultimately, it speeds up the container transit as no inordinate delays is usually experienced in relation to importers/exporters, and at port.

5.2.6 Suitability of ships and finance

Whenever there is a need to order a new-building or to buy a second-hand ship, one should carefully assess the viability of this very high capital intensive project. It means to consider what kind of ship is appropriate in relation to defined goals and if the time is opportune for all the parties involved. These parties include the manpower to operate the ships; ports, the port's handling facilities and size and skills of labour force; the type of goods to be transported.

In the evaluation of certain types of ships, we find that conventional ships are getting more and more unsuitable to the present pattern of trade.

On the other hand not all of the claims in favour of container transport have in fact been realized. For example, the phenomenal cost of building container ports compared with other types of port terminals has reawakened concerns that containers may not be the answer of the moment to the majority of the countries in the western and southern Africa. For a number of reasons the volume traffic handled at container berths of the countries concerned is not as high as was originally forecast.

Perhaps the most common objection made against the use of containers in those countries concerns the balance of trade. While the imports of containerized cargoes from
developed countries are completely optimized, the same

can not be said of the return voyage of the same contai-

ners. It has often been argued that the exports of the

aforementioned African countries are totally unsuitable
to shipment in containers. Coffee, for instance, is con-

sidered a "sweaty" cargo that needs ventilation.

In reality there are few products which are physically

impossible to ship in container; and from those African
countries, timber, veemers, rubber, coffee and cocoa are

all sent to for example European countries in containers.

Where damage is feared such as condensation due to a high

moisture content of the merchandise, extra costs are

inevitably incurred either by drying the produce as with

cocoa or coffee or by using modified containers. Thus the

unsuitability of the majority of African countries’ pro-
duce for containerization is related to the extra costs

incurred which perhaps exceed the costs of returning
empty containers. Therefore, the conditions of the market
will be decisive for whether shippers cover or not such
extra costs.

Roll-on Roll-off (Ro-Ro) ships and terminals may be more

appropriate. These vessels are cheaper and the port

facilities to handle them are minimal.

Rolling cargoes do away with the need for sophisticated

handling gear and the vessels are able to carry the whole

range of goods produced in the region.

Once the type of ship has been found, there is the need

for financing the project. Considering that the bulk of

financial resources made available to developing coun-

tries for the acquisition of new or second-hand ships
come from foreign loans, the present study is aimed at assessing the terms and conditions of various types of ship finance most commonly available to shipping companies of those countries.

Ship export credits

They are loans made for ships sold to foreign buyers. Government-supported export credits appears to be one of the major sources of finance. This financial support, mainly intended to provide employment for domestic shipyards, varies in institutional form and financing arrangements in the various exporting countries. The support involves either the provision of guarantees for private loans made to shipowners who order ships from the exporting country's domestic shipyards and/or the provision of funds to enable the issuing of loans on favourable terms. The exact methods of channeling the government support differ from country to country. In some countries the finance is channeled through banks, either directly to individual banks or through a government-backed specialized institution. In other countries the credits are given directly by government agencies.

An important advantage of export credit schemes is that they normally carry fixed interest rates, thus providing immunity from the risk of interest-rate fluctuations, which is advantageous to the borrower in terms of predictability of cash-flow. Also, in a situation of rising interest rates the borrower is protected from increases in the cost of the loan.
However, ship export credit schemes have the following main restrictions:

(i) For a given loan, the borrower is tied to a particular supplier on terms determined by Government policy and the loan may be subject to restrictive conditions. Furthermore, to some degree, the loan terms and conditions depend on the types of ships available for export under prevailing shipping supply and demand conditions and also the extent to which the shipyard and the bank want to do business with a particular shipowner. Thus, large and well established customers are likely to obtain finance on the most favourable terms. Also, the objectives of the exporting countries may not necessarily be compatible with the investment needs of shipowners of developing countries.

(ii) The finance is only available for new buildings and not for second-hand ship acquisitions. This may be an important negative factor for certain developing countries which wish to rely on second-hand purchases for the expansion of their merchant fleets.

(iii) Export credits financing is subject to high currency exposure risks owing to the loans being denominated exclusively in one currency, that of the shipbuilding country, and that to the fact that the shipping company may be earning most of its freight revenue in a different currency.

(iv) Since the main determinant of the amount of finance and the terms offered for export credits is the desire of Governments to provide employment to domestic shipyards, the amount and terms of ship export credits are influenced by recessions in shipbuilding. Such credits may therefore be expec-
ted to decrease substantially if the demand for new-buildings were to increase significantly or if some of the major shipexporting countries were to decide to reduce the level of support to the shipbuilding industry. It is also to be noted that usually the export credits are made available on favourable terms when freight markets are depressed, which limits the shipowner’s ability to repay the loans.

Bilateral aid or Government-to-Government credits

Quite often officially-supported ship export credits are mixed with bilateral aid or Government-to-Government credits. As in the case of export credits, the Government-to-Government aid or credits are usually not available for second-hand acquisitions and they tend to tie the borrower to a particular supplier, thus in some case effectively limiting the choice of ships to be acquired. Furthermore, even where the financing is not mixed and involves pure aid or grants, in some cases such finance is available for acquisitions of selected types of vessels such as trawlers, fishing boats, and not for vessels used in international seaborne transport.
International Commercial bank loans

International bank lending has been a major source of ship finance. For banks, the attractions of ship financing are many. Loans tend to be for substantial amounts repayable over a number of years and are secured on assets which are traded internationally and identifiable earnings which should be the primary source of repayment of the loan.

The bank’s first responsibility in considering a request to finance a new or second-hand ship will be to assess the viability of the proposed project. Can the vessel earn within a foreseeable future sufficient to make at least a major contribution to servicing its own debt and secondly will the value of the vessel at all times provide adequate collateral cover as security for the bank?

The single most important consideration is the cash-flow. At one time, banks generally required some period of fixed employment, if not a bareboat or time charter that would generate revenues to meet all the payments of the principal and interest required. In any event, such an arrangement does not obviate the need for a critical assessment of the project but rather adds another factor: an analysis of the charter’s ability and willingness to meet the charter payments over the full period of the charter.

Presently an increasing number of banks are applying a computer model capable of assisting them in analysing a project’s sensitivity to variations in operating costs, interest rates as well as movements in freight rates. This computer may produce a cashflow projection for up to
ten years which can include an owner’s entire fleet or a selection of some of the vessels.

Other fundamental considerations in evaluating a ship finance proposal are the value of the security offered and the enforceability of that security. Most banks will limit their advance to a certain percentage of the appraised market value of the vessel. This is not usually more than 80 per cent. The loan is secured by a mortgage registered on the vessel. The quality of the mortgage and the protection it affords to the lender will depend on the law and practice of the country where the ship and the mortgage are registered. In some cases, the laws will permit an unusual number of creditors to claim precedence over the mortgage, in other cases the mortgagor may be given a generous amount of time to prepare a defence to the arrest. These kinds of problems are one of the circumstances that the lending bank can not hope to control but they emphasise the importance of the correctness of the original documentation and why the bank will not take additional risks by accepting a mortgage registered in an untried jurisdiction.

Assuming that the bank is confident with the casflow projections for the vessel and satisfied with the value of the security, it will also make an assessment of the credit standing of the borrower and the quality of its management. One of the key ratios to be examined is leverage which is simply the proportion of borrowed money compared with the shareholders funds invested in the business. The prospective purchaser should further be able to demonstrate adequate liquidity. It means that the operation of ships can be extremely expensive and there are many calls on the shipowner’s resources. Apart from
crew wages and bunkers, an unexpected breakdown can mean a heavy repair bill and a temporary loss of earnings. Accordingly, the owner should have sufficient working capital to meet these needs without recourse to bank finance.

The quality of the management is then analysed because it is crucial to the survival of a shipping company. It is evident in the company’s ability to find employment for its vessels and to ensure that maintenance standards are kept up even when the budgets are tight and cashflow restricted.

Finally it is advisable, in selecting a bank, that the potential owner looks for a bank with an established portfolio of shipping clients. The shipping industry has many complications and the experience of an experienced bank can often help an owner to solve or avoid many problems. Therefore the borrower should try to seek a bank with a high quality portfolio even if this means not obtaining the high percentage of finance or the lowest possible margin of the loan.

Lease finance

The two basic types of leasing used in ship finance are financial leasing and instalment sale leasing. In financial leasing the lessee is responsible for all repairs and maintenance. The lessor signs the shipbuilding contract with a shipyard, and the lease agreement is effected by means of a bareboat charter party over the period of the lease between the lessor and the lessee. Also, the lessee may have the right to purchase the asset.
at a prearranged price, at a fair market value, or at outstanding balance due, which is determined in negotiations.

In instalment sale leasing, if leasing companies are unwilling to assume ownership, usually because of tax position, they can purchase the vessel and simultaneously transfer ownership to the shipowner, who then makes payment in a series of instalments. Leasing companies secure their sales proceeds by taking a mortgage and other liens against the vessel, which are considered to be in the same category as conventional ship financing security.

Joint ventures

They are put into existence for a variety of reasons, it may be to escape from an expensive flag to a cheaper one, to gain access to cargo, to cheap long term finance or subsidies only available under a particular national flag, or simply to find a partner willing to provide new capital.

Joint ventures are usually achieved through two main ways: i) the capital-rich partner making a direct contribution of capital or ships to the joint-ventures and/or ii) the joint-venture acting as a stimulus for attracting ship finance through enhancing vessel employment opportunities or enabling the developing country partner to improve his creditworthiness or to reduce his cross-border risks* by virtue of being associated with a creditworthy or reputable partner located in a country with less-border risks.
But as someone once said: "Joint ventures sometimes remind you of the story of the hen and the pig who were standing at the bottom of a hill. The hen said to the pig: "Do you realise that there is a very successful hotel at the top of this hill and that every morning they provide hundreds of servings of bacon and egg for breakfast. They are making a fortune. I think you and I should form a joint venture and go into this business". The pig said that this was very interesting and asked how they should go about forming this joint venture. "It is very easy" said the hen "I shall provide the eggs if you provide the bacon".

*Cross-border risks arise where a loan is made in a convertible foreign currency to a borrower who generates revenue in non-convertible currency or foreign currency which he can not repatriate freely, for example without official or central bank authorisations or where legal difficulties may arise in bringing proceedings against a foreign borrower in cause of default.
Domestic maritime development funds

A number of developing countries have established special maritime development funds to finance ship acquisitions through loans and subsidies. These funds are not a sufficient source of ship finance in developing countries mainly because of difficulties encountered in raising the required capital in local and foreign financial markets. However, such funds have contributed to the growth of the shipping industry in some developing countries which have succeeded in building up large fleets. Therefore, developing countries wishing to develop their national merchant fleets should consider the creation of domestic maritime development funds in order to provide a framework for generating ship finance from various sources.

Finally, I would like to say a few words regarding the relationship that should prevail between Angonave and the ports of Angola.
5.2.6 Optimising Angonave/Ports relationships

The importance of an appropriate relationship between Angolan Ports and Angonave, so as to derive the maximum national advantage, should always be in the minds of the authorities concerned. Since ports are for the use of ships; there are marine personnel involved in ports; there are marine services to be rendered by ports; marine craft are used in ports; and port safety and the safety of the ships in port are interlinked therefore it would seem obvious to those concerned that there is a necessity for a close co-operation between Angonave and the national ports. However, it has been observed that the relationship between them has not yet reached the level that it deserves. This is maybe due to a lack of understanding of the advantages that can be derived from the co-operation to national interests.

Basically a positive step is given when national ships are proceeding to national ports. Angonave shall in time inform the port about the ship’s arrival and about the activities in the ship during her stay in port that may influence in the allocation of the berth to her. Furthermore certain documents such as manifests, hatch lists or other discharging documents shall be provided in time.

Ports shall always consider that if they are not well organised the following events will occur:

1. The ships of Angonave will suffer losses and a demand for international carriers will increase.
2- International owners will send their oldest vessels to these ports, or they will not serve the ports anymore.

3- Ports will very often suffer from surcharges which means that every ton imported via these ports has to be much higher than imported by a better organised port.

4- The costumers in the country finally have to pay these extra costs. These refer to the industry as well to private persons.
Epilogue

Amongst the suggestions given in this paper, the identification of the best suitable scheme of training and re-training, and the implementation of such a scheme is assumed to be deserved the first priority. It is worldwide undoubted that manpower is the most important factor of any organisation, be it economical, social or political.

The shipping industry is characterised by constant changes in technology as a result of the competitiveness of the market. The high productivity resulting from these changes makes it tolerable for some shipping companies to reduce the prices of their services. It means that every time Angonave is being challenged by the availability of alternative services, some of which are cheaper and reliable.

Thus, know-how and experience are key factors when we measure the feasibility of a state-owned enterprise as it is the case of Angonave.

The efficiency of the company depends to a large extent on the ability of the labour to do the required job properly. This will be possible through good policy of training and retraining either shore-based personnel or seafarers.
Appendices
To show a relative importance of the merchant marine for a country’s economy the ratio of GRT per capita is sometimes used. Table 1 shows this ratio for some selected countries. Furthermore, the share of national marine in the transport of international trade of a country is also used. Figures illustrating this share for EEC countries are shown in table 2. It can be seen from this data that apart from Greece and the UK the coverage in the remaining countries is low, and they are all importers of shipping services. In fact some of these countries, e.g. Belgium or the Netherlands are cross-traders. In Norway nearly 90 per cent of the country’s tonnage is employed for the foreign account. These figures show how difficult is to properly measure the economic role of shipping. The economic indicators used have only a relative value.

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (million)</th>
<th>Gdp per capita (Dollars)</th>
<th>Merchant fleet (000 grt)</th>
<th>Grt per 1,000 inhabitants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>120.5</td>
<td>2,220</td>
<td>5,133.2</td>
<td>42.6</td>
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<tr>
<td>Canada</td>
<td>24.2</td>
<td>11,400</td>
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<td>China, People’s Rep. of</td>
<td>991.3</td>
<td>300</td>
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<td>Denmark</td>
<td>5.1</td>
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1.1 Shipping and the National Product

There are two principal indicators which characterise the economic performance of a given country: i.e. Gross National Product (GNP) and Gross Domestic Product (GDP). The World Bank’s definition of GNP reads: "Gross National Product (GNP) measures the total domestic and foreign output claimed by the residents. It comprises Gross Domestic Product (...) and factor incomes (such as investment income and workers’ remittances) accruing to residents abroad, less the income earned in the domestic economy accruing to persons abroad."

It follows from this definition that Gross Domestic Product (GDP) is the crucial element of GNP. The Bank’s definition of GDP reads: "Gross domestic Product (GDP) measures the total final output of goods and services produced by an economy - that is, by residents and non-residents regardless of the allocation to domestic and foreign claims."

Detailed statistics of the merchant fleet’s contribution to GNP are not readily available. Table 2 includes the figures illustrating the share of gross freight revenues in GNP of selected countries. It follows from these figures that this share is between 0.6 per cent (India and West Germany) and 7.7 per cent in Norway. The exceptionally high contribution of the Norwegian fleet is due to the strength of the country’s fleet and a relatively small size of its economy compared with other countries. For instance, the absolute gross freight revenues are similar in Norway and in West Germany, but Norway’s GNP is only 7 per cent of that of Germany. It should be also noted that in terms of freight per 1 dwt Norway is far
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<tr>
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</table>

behind West Germany: 105$/dwt and 337$/dwt for West Germany. This discrepancy is due to the structure of the fleets of these two countries: a relative weakness of liner shipping in Norway as compared with West Germany. Although the statistics mentioned above are not exhaustive, they clearly show the importance of the merchant marine for national economies. Generally speaking, the existence of a merchant marine results in:

Table 3

CONTRIBUTION OF SHIPPING TO GROSS NATIONAL PRODUCT OF SELECTED COUNTRIES

<table>
<thead>
<tr>
<th>Country</th>
<th>GNP (million $) 1980</th>
<th>Gross freight revenue (million $) 1980</th>
<th>Share of freight revenues in GNP %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>61,520</td>
<td>1,637</td>
<td>2.7</td>
</tr>
<tr>
<td>Finland</td>
<td>46,360</td>
<td>928</td>
<td>2.0</td>
</tr>
<tr>
<td>Federal Republic of Germany</td>
<td>758,480</td>
<td>4,433</td>
<td>0.6</td>
</tr>
<tr>
<td>India</td>
<td>153,390</td>
<td>999*</td>
<td>0.6</td>
</tr>
<tr>
<td>Japan</td>
<td>1,053,930</td>
<td>11,959</td>
<td>1.1</td>
</tr>
<tr>
<td>Netherlands</td>
<td>155,740</td>
<td>1,710*</td>
<td>1.1</td>
</tr>
<tr>
<td>Norway</td>
<td>52,410</td>
<td>4,058</td>
<td>7.7</td>
</tr>
<tr>
<td>Sweden</td>
<td>114,150</td>
<td>2,600</td>
<td>2.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>476,880</td>
<td>6,408</td>
<td>1.3</td>
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</tbody>
</table>

*1979

1) limiting of imports of shipping services (saving of foreign exchange)

2) Export of shipping services (inflow of foreign exchange)

3) shift of capital resources from other sectors to shipping

4) extra imports to satisfy the needs of the shipping industry (ships, their equipment, repairs, etc.)

5) employment opportunities for crews and shoreside personnel, etc.
However, the argument often raised that the existence of a national merchant marine has always a positive influence on the national economy is not self-evident. The efficiency of shipping operations and their contribution to GNP should be measured in relation to alternative investments which may prove more efficient.

A relatively low rate of return in shipping compared to other industries must not be, however, an argument against the national merchant marines which play a much greater role for the national economies than that which can be measured with the fleet's contribution to GNP.
1.1 Shipping and the Balance of Payments

A typical balance of payments accounts includes several items which are shown in the Table 4:

Table 4

The structure of the Balance of Payments.
1. Merchandise Account (commercial sensu stricto) also called: "visible account"

2. Service Account
   also called "invisible account"
   — Transport
   — Tourism
   — Others

3. Account "External Revenues"
   — Capital Revenues
   — Receipts — payable by government
   — Receipts-payments of business enterprises abroad
   — Others

4. Current donations

5. Capital donations

6. Capital investments and monetary gold
   a) long-term investments
   b) short-term investments
   c) monetary gold

Balance of investment and capital movements
(3) + (4) + (5) + (6)

Current Account Balance
(1) + (2)


Let us now briefly look at the particular elements of the Balance of Payments:

Merchandise Account or Commercial Account — It includes on the credit side receipts from exports, re-exports and sales of non-monetary gold and on the debit side the payments for imports f.o.b. (if stated c.i.f. value of insurance and freight must be deducted), purchase of non-monetary gold.

Service Account — includes services produced inside
the country's territory (including ships at sea) and sold to foreign residents and vice-versa. Included in this account are the following services:

1) transport services: sea, rail, road, air transport, pipe-lines, etc.,
2) foreign tourists and travellers,
3) other services: insurance, banking, film hiring, patents, trade marks, copy-rights, etc.,

External Revenues Account. External services are rendered by domestic residents and agencies located abroad. Included in this account are the following items:

1) receipts and charges on national capital placed abroad under the form of portfolio investments, direct investment or short term employment,
2) receipts and payments by government, e.g. maintenance of armed forces overseas,
3) receipts and payments by business enterprises settled abroad.

Current Donations Account. One calls a "donation" a putting at a disposal of a nation by another nation, without a direct counterpart, of any goods or rights. The donation is "real" if it concerns a real good (for instance of the United Nations Relief and Rehabilitation Administration).

"Current donations" are those which are considered, due to their volume and their value, as revenues for the donor (e.g. an immigrant's remittance to his family staying in his country of origin).
Capital donations: there are three types of these donations:

1) voluntary donation - if it results from a free decision by the donor (e.g. Marshall Plan, or assistance to developing countries)
2) compulsory donation - if a donor is constrained to do so (e.g. war contributions or reparations)
3) automatic donation - if the operation is connected with another event, e.g. an immigrant bringing with him "capital" in chattels or in money.

Movement of Capital Assets and of monetary gold -
There are three types of capital investments:

1) long-term investments if they are made for a period over one year
2) short-term investments, which are usually not considered as actual investments, e.g. movements of foreign exchange in order to balance a country's foreign trade.
3) movements of monetary gold as distinct from movements of gold as merchandise (for industrial or jewelry use).

After this additional but not exhaustive explanation related to particular items of a country's balance of payments (in fact there are considerable differences in the structure and arrangement of this balance) we shall analyse the contribution of shipping to the balance of payments.
It is often argued that the existence of a national merchant marine is beneficial to the country's balance of payments and this is true. A national merchant marine enables a country to reduce the outflow of foreign exchange for imported shipping services and earns foreign exchange by selling its services to foreign residents. A typical structure of receipts and payments incurred in transactions in maritime transport contains the following items (after C O'Loughlin):

**Receipts:**
- Freight earnings of home-flag ships. This includes earnings from transportation of home exports paid for by foreign buyers, home imports paid by foreign suppliers and earnings from cross-trades.
- Earnings by home-flag ships from foreign passengers.
- Receipts of home insurance companies for maritime insurance services provide to foreigners.
- Expenditures on port fees and other service payments by foreign ships in the country's ports.
- Expenditure in home ports by foreign ships crews.
- Charter fees received by home shipowners.
- Receipts of drydocks in the home country for maintenance and repairs to foreign ships.
Payments

- Payments to foreign-flag ships for imports when freight is paid by consignee and for exports when freight is paid by consignor.

- Payments by residents of the home country to foreign-flag vessels for passages.

- Payment of marine insurance to foreign underwriters.

- Ship's stores and bunkers purchased by home-flag ships in foreign ports.

- Expenditure by home-flag ships in port fees, canal fees and other services provided by foreign countries.

- Expenditure by crews of home-flag ships in foreign ports.

- Charter fees paid to foreign shipowners by home-based companies.

- Payments for drydocking and repairs made by home-flag vessels in foreign countries.

This classification includes the transactions not only of the fleet but also those made by the ports, shiprepairing yards, insurance, etc.

As we have said earlier there are various systems of recording freight revenues and other types of shipping services in the Balance of Payments. The International Monetary Fund is working on a uniform system which would enable to evaluate properly the actual contribution of
the merchant fleet to the balance of payments of particular countries and to make comparisons between countries.

In order to illustrate the influence of the flag of a ship on the balance of payments we shall consider several situations following the work of two Polish shipping economists Sawiczewska and Zurek:

1. Export

1. Exported goods are transported on a home-flag ship
   a) on a f.o.b. basis
   b) on s c.i.f. basis

In both case the freight revenue earned will accrue to the credit side of the balance of payments since it is an export of shipping services. However, the inflow of foreign exchange for the payment of freight will be different in both cases.

Under (a) the buyer employs exporter’s vessel for certain reasons. These reasons may be various:
- unavailability of own tonnage
- more favourable conditions offered by the exporter country’s fleet
- shorter delivery dates, etc.

The exporter will receive the f.o.b. price from the buyer who will pay the freight due to the home-flag carrier under a separate transaction. As a result the country’s balance of payments will be credit, though through two different channels. If the importer insures his merchandise in the exporter’s country, the inflow of
foreign exchange will be equal to the c.i.f. price. The transaction above is shown graphically below.

**Fig. 1**

*Export f.o.b. - transport on a home-flag ship*

Under (b) the right to nominate a ship remains with the exporter who will turn to the home-flag carrier for the transport of his commodities. These seller will pay the shipowner in the local currency. He will, however, receive from the buyer the c.i.f. price. In this way, the employment of a home-flag vessel enables the earning of foreign exchange which will be credit to the balance of payments. This transaction will have a positive influence on the balance (see Fig. 2).
2. Exported goods are transported on foreign ships
   a) on a f.o.b. basis
   b) on a c.i.f. basis

   In both cases there will be no influence of the home-flag fleet on the balance of payments. Under (a) the foreign importer will have the right to nominate a ship and he will employ either his flag ship or a third-flag ship. There will be no inflow of foreign exchange for freight into the exporter’s balance of payments. He will receive only the f.o.b. price (fig. 3).
Under (b) the exporter has the right to nominate a ship but for definite reasons he contracts for shipment in a foreign-flag ship. The exporter will pay to a foreign-flag carrier a freight in a foreign currency. The country’s balance of payments will be debited with this item. However the exporter, receiving the c.i.f. price from the importer will be reimbursed for the freight paid to a foreign-flag carrier under the c.i.f. invoice. If the amount of the freight is the same in both cases this transaction will be neutral for the balance of payments (i.e. its invisible part). (Fig. 4).
II- Import

1. Imported goods are transported in a home-flag ship
   a) on a f.o.b. basis
   b) on a c.i.f. basis

In both cases the employment of a home-flag ship will enable saving of foreign exchange, otherwise paid to foreign carriers. Under (a) the importer has the right to nominate a ship and contracts a home-flag ship to perform the transportation of imported goods.

He will pay the freight in home-currency and f.o.b. price paid in foreign exchange. The national fleet plays a protective role with respect to the country’s balance of payments (Fig. 5).
Under (b) the foreign exporter has the rights to engage a ship of the importer's flag. The home-flag carrier will receive from a foreign exporter the amount of freight paid in foreign currency. The importer will pay the exporter the c.i.f. price but the outflow of foreign exchange will be reduced by the amount equal to the value of freight received in foreign currency. In this case also the national fleet plays a protective role from the balance of payments point of view (see Fig. 6).
2. Imported goods are transported on foreign ships
   a) on a f.o.b. basis
   b) on a c.i.f. basis

In both cases the employment of a foreign-flag ship will result in an outflow of foreign exchange. The non-employment of a home-flag ship will have a negative effect on the country's balance of payments. Under (a) the importer has the right to name a ship but for definite reasons he will employ a foreign ship. He will pay the freight in foreign currency and the f.o.b. price also in foreign currency. Both transactions will be debited to the country's balance of payments (see Fig. 7).
Under (b) the foreign exporter has the right to engage a ship or a third flag carrier, whom he will pay in a currency agreed. From the importer he will receive the c.i.f. price from which he will recover the part spent on freight. From the importer’s point of view his transaction will have a negative effect on the balance of payments. (see Fig. 8).
The situation described above are rather simplified but they nevertheless illustrate the influence of the national merchant marine on the country's balance of payments.

The employment of home-flag ships will have a direct positive influence on the country's balance of payments in the following situations:

1) Export f.o.b.-transport on a home-flag ship
2) Export c.i.f.-transport on a home-flag ship
3) Cross-trade
4) Time-charters of home-flag ships to foreign charters
5) Transport of foreign cargoes which transit via the country's ports and are transported by the home-flag ships
6) Transport of foreign passengers.

The employment of a home-flag vessel in transport of imported goods (either on a f.o.b. or c.i.f. basis) will result in savings of foreign exchange which would otherwise have been spent on import of shipping services provided by foreign carriers.

The structure of the balance of payments is different for each country. This is also true of its "invisible" part in which shipping and port services are included. Depending on the scope of maritime services and the recording system used the part of a country's balance of payments dealing with sea transport may be developed into a very detailed section of the overall balance of payments.

It follows from these considerations that to evaluate
properly the influence of shipping and related industries on the country's balance of payments one has to possess detailed statistics which are not readily available. Furthermore, comparisons between particular countries can only be made if the methodology used in the construction of relative balances is exactly the same. Since this is not always the case such comparisons are but approximate.

In summing up the considerations it should be emphasized that the actual role of the shipping industry for a country's national economy is much more complex than it seems from the analyses of key economic indicators. Direct and indirect economic consequence of the existence of national merchant marines are not easily quantifiable. Furthermore, economic and political aspects are closely related to each other in shipping which renders a sound economic analysis still more difficult.
Appendix 2- A brief summary of the major international shipping conventions and guidance

SOLAS (Convention for the Safety of Life at Sea) 1974 and 1978 Protocol lay down a comprehensive range of minimum standards for the safe construction of ships and for the basic safety equipment (e.g. fire-prevention, navigational, life-saving and radio) to be carried on board. SOLAS also contains operational instructions, particularly on emergency procedures, and provides for regular surveys and certificates of compliance. Supplementary requirements, primarily concerning inert gas systems and steering gear, are laid down in the 1978 Protocol. As a complement to enforcement by the flag state, the Convention renders ships of a contracting party liable to specific control by authorities in the ports of other ratifying states. This may include detention of the ship.

MARPOL (Convention for the Prevention of Pollution on Ships) 1973 and 1978 Protocol contain measures designed to prevent pollution caused both accidentally and in the course of routine tanker operations by oil and oily mixtures, noxious or harmful cargoes, sewage and garbage. It sets out requirements for storing, treating and discharging these substances (including provisions related to segregated ballast tanks and crude oil washing systems) and for the reporting of spillages.

COLREG (Convention on International Regulations for Preventing Collisions at Sea) 1972 lays down the basic "rules of the road" governing traffic at sea, including rights of way, safe speed, action to avoid collision, procedures to observe in narrow channels and
restricted visibility, and signals to be used to warn of manoeuvres.

*Load Line Convention 1966* sets the minimum permissible free-board, according to the season of the year and the trading area of the ship; special ship construction standards are laid down in regard to watertightness.

*ILO Convention 147 (Merchant Shipping (Minimum Standards) Convention) 1976* requires administrations to have effective legislation on safe manning standards, hours of work, seafarers' competency, and social security; and sets employment standards equivalent to those contained in a range of ILO instruments (covering e.g. minimum age, medical care and examination, accident prevention, crew accommodation, repatriation, social security, training). Parties also have to ratify SOLAS, the Load Line Convention, and COLREG. It allows an administration to apply its provisions (including the power of detention) to any ship which calls at its ports, whether or not the flag state has ratified the Convention.

*STCW (Convention on Standards of Training, Certification and Watchkeeping for Seafarers) 1978* lays down extensive certification and qualification requirements (including syllabuses and sea time) for senior officers; all officers in charge of watches in the deck, engine and radio departments; and ratings forming part of a watch. All such seafarers will be required to have a certificate, endorsed in a uniform manner. It also specifies basic principles to be observed in keeping deck and engine watches and special
qualification requirements for personnel on oil, chemical and liquefied gas tankers.

IMO Resolution A.481 (XII) (on Principles of Safe Manning) 1981 recommends all administrations to issue their registered ships with a document specifying the minimum number and grades of qualified seafaring personnel required to be carried from a safety standpoint. It gives basic principles and detailed guidance to be observed by administrations when assessing the safe manning of ships.

In addition to the instruments described above, IMO has published other conventions, recommendations and codes, dealing with such matters as search and rescue, safety in container operations, and the characteristics and handling of different types of cargoes (e.g. bulk chemicals, dry bulk cargoes, liquefied gases, packaged goods, etc.). The ILO has issued codes of practice on safety and health at work, including accident prevention on board ship, at sea and in port; and also advice on medical treatment of seafarers (with the World Health Organisation).
Appendix 3 - A definition of tonnage to describe ship sizes

The description of a ship's size in terms of her tonnage may appear confusing, especially when at least five different figures are quoted to describe the tonnage of one and the same ship. They are:

(i) gross registered tonnage
(ii) net registered tonnage
(iii) freight tonnage
(iv) deadweight tonnage
(v) displacement tonnage

What do these tonnages mean in simple terms? The first point to remember is that gross, net and freight tonnages are measurements of volume while deadweight and displacement tonnages are measurements of weight.

Gross registered tonnage (GRT) is the total cubic capacity of a ship, i.e. her internal volume, expressed in tons of 100 cubic feet (or 2.83 cubic metres) per ton. In other words, a ship with a total cubic capacity of say 700,000 cubic feet (or 19,816 cubic metres) would have a gross registered tonnage of 7,000 tons. It is the most widely used tonnage in modern shipping statistics and is also the first figure shown in the national registers of ships.

Net registered tonnage (NRT) is also expressed in volumetric tons of 100 cubic feet (or 2.83 metres) per ton. It is obtained by subtracting the non income-yielding cubic capacity such as the engine room, bunkers, crew's quarters and stores from the gross
registered tonnage. It therefore represents the income-yielding capacity of a ship.

*Freight tonnage*, which is also variously referred to as *bale capacity*, *measurement capacity* and *cubic capacity*, is the maximum volume of cargo that a ship can carry, expressed in tons of 40 cubic feet (or 1.13 cubic metres) per ton. The unit of 40 instead of 100 cubic feet per ton distinguishes the freight ton from the registered ton, whether gross or net.

*Deadweight tonnage (DWT)* is expressed in long tons of 2,240 pounds (or metric tons of 1,000 kilograms) per ton. It is the total weight of the cargo, bunkers, stores, crew and passengers that will take a ship from her laden state down to her loadmarks shown on both her sides. As this weight will vary accordingly to the salinity of the water, the season and the locality, allowance is made by providing a set of load lines that stipulates the actual depth to which a ship may be loaded under the following conditions:

- TF......Tropical fresh water
- F .......Fresh water
- T .......Tropical salt water
- W .......Winter salt water
- WNA......Winter North Atlantic

The load lines are accompanied by the Plimsoll Line which is in a circle bisected by a horizontal line bearing the initials of the ship classification society that has allocated the minimum freeboard of the ship.

*Displacement tonnage* is rarely quoted for merchant ships and since 1872 it has been used for warships. It
is also expressed in long tons of 2,240 pounds (or metric tonnes of 1,000 kilograms) per ton and is the total weight of the ship. As the weight of a floating ship is equal to the weight of water displaced, and since 35 cubic feet of sea water weighs about one ton, the total weight of a ship in tons is reckoned by dividing the under-water volume of the hull by 35.

It is obvious that the figure for displacement tonnage is infinitely variable between the light and fully laden conditions of a ship, and it also varies during a voyage as the bunkers and stores are consumed. Hence, we have displacement tonnage qualified as light, legend, standard, full load or extra deep, depending on the amount of bunkers, fresh water, reserve boiler feed, overflow feed water, provisions, stores, ammunition and extra fuel tanks carried by a ship.
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